DOCUMENT RESUME

ED 189 046 SP 016 218

AUTHOR	Hall, Gene E., Ed.; And Others
TITLE	Exploring Issues in Teacher Education: Questions for Future Research.
INSTITUTION	Texas Univ., Austin. Research and Development Center for Teacher Education.
SPONS AGENCY	National Inst. of Education (DHEW), Washington, D.C.
PUB DATE	Jan 80
NOTE	550p.
AVAILABLE FROM	The R&D Center for Teacher Education, Education Annex 3.203, The University of Texas, Austin, TX 78712.
EDRS PRICE	MF02/PC22 Plus Postage.
DESCRIPTORS	*Educational Change; *Educational Research; Information Dissemination; Institutional Cooperation; *Professional Development; Program Content; Research Methodology; *Research Needs; *Teacher Education

ABSTRACT

Papers generated for a conference called to identify and establish priorities for crucial, researchable issues in teacher education are presented. The conference was organized around two dimensions of teacher education: the education continuum (preservice/induction/inservice), and seven topic areas. The topic areas were: content, process, professionals as learners, collaboration, context, research, and change/dissemination. The presenters' overviews of the research in the topic area are followed by several specialists' presentations focused on specific research questions arising in that area. (JD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED189046

EXPLORING ISSUES IN TEACHER EDUCATION: QUESTIONS FOR FUTURE RESEARCH

GENE E. HALL
SHIRLEY M. HORD
GAIL BROWN

editors

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

RESEARCH AND DEVELOPMENT AGENDA IN TEACHER EDUCATION

RESEARCH AND DEVELOPMENT CENTER FOR TEACHER EDUCATION
THE UNIVERSITY OF TEXAS AT AUSTIN

SP016218

JUL 3 1980

The research described herein was conducted under contract with the National Institute of Education. The opinions expressed are those of the authors and do not necessarily reflect the position or policy of the National Institute of Education, and no endorsement by the National Institute of Education should be inferred.

Publication #7003 available from
the Research and Development Center for Teacher Education.

Table of Contents

Page

Introduction 1

Content 3

B. O. Smith, "On the Content of Teacher Education" 7

G. D. Fenstermacher, "What Needs to be Known About What Teachers Need to Know" 35

T. L. Good, "Research on Teaching" 51

H. Pratt, "Selecting Content for Inservice Education Programs 75

K. R. Howey, "Reactions to the Panel on the Content of Teacher Education" 91

C. Ruch, "Content of Teacher Education: Next Steps on the Research Agenda" 97

Process 101

K. Ryan, "Inside the Black Boxes: The Process of Teacher Education" 105

E. A. Dillon-Peterson, "Process and Inservice Teacher Education" 119

S. Feiman-Nemser, "Growth and Reflection as Aims in Teacher Education: Directions for Research" 133

R. P. Tisher, "Teacher Induction: An Aspect of the Education and Professional Development of Teachers" 153

C. San Jose, "A Practitioner's Questions About the Process of Teacher Education" 175

T. Bettis, "Process Session Discussant Remarks" 183

Page

Context 187

R. C. Wallace, Jr., "The Influence of Selected Context Variables on Schooling" 191

J. B. Boyer, "The Essentials of Multiculturalism in the Context of Teacher Education Research: A Projective Overview" 213

L. M. Carey, "A Framework for Identifying Future Research Questions Related to Teacher Education in the University Context" 229

C. Lewis, "A Discussion of Political and Economic Realities Impacting Upon Teacher Education Research" 245

J. Stallings, "A Discussant's Remarks on Two Papers on Context" 265

J. T. Sandefur, "Context Discussant Paper" 269

Professionals as Learners 273

N. A. Sprinthall, "Adults as Learners: A Developmental Perspective" 275

D. H. Heath, "Toward Teaching as a Self-Renewing Calling" 291

E. V. Sullivan & M. Taylor, "Teacher Training: A Necessity Not a Frill" 307

M. Melle, "Discussant Remakrs: Professionals as Learners Session, A Change Agent Looks at Adult Development" 319

R. B. Howsam, "Discussant Remarks--Professionals as Learners" 323

Page

Collaboration 327

W. R. Houston, "Collaboration--See 'Treason'" 331

G. C. Kennedy, "Exploring Issues in Teacher Education: Questions for Future Research" 349

W. J. Tikunoff, B. A. Ward, & C. Lazar, "Partners: Teachers, Researchers, Trainer/Developers--An Interactive Approach to Teacher Education R&D" . . . 357

R. N. Bush, "A New Source of Energy for Teacher Education: Collaboration" . . . 383

V. Phelps, "Collaboration Session, Discussant Remarks" 401

J. Lanier, "Collaboration Session, Discussant Remarks" 405

Change/Dissemination 411

A. Lieberman, "Describers and Improvers: People, Processes and Problems" 415

J. A. Emrick, "Some Implications of Recent Research on Educational Dissemination and Change for Teacher Education (Inservice) Programs" 429

M. C. Reynolds, "Networks of Teacher Educators: An Approach to Public Law 94-142" 449

R. D. Olivarez, "Change/Dissemination Component Session Special Discussant Comments" 463

R. R. Brickley, "Change/Dissemination Discussant Remarks" 469

C

Page

Research Methodology 475

V. Koehler, "Methodology for Research on Teacher Training" 479

W. Doyle, "Research on Teaching in Classroom Environments" 501

H. D. Schalock, "Eating Humble Pie: Notes on Methodology in Teacher Education Research" 519

J. M. Cooper, "Improving Teacher Education Program Evaluation" 537

N. L. Gage, "Remarks as Discussant--Research Methodology Session" . . . 549

F. Holley, "Discussion: Research Methodology" 555

Concluding Comments 561

Preface

Occasionally there comes to the fortunate the rare opportunity to participate in a very special enterprise. Though one does not always know at the outset just how satisfactory the outcomes will be, predictably, rare opportunities produce rare products. Such is the case with our experience in working with an international group of scholars, policymakers, and practitioners in the planning and implementing of an effort to identify crucial issues for research in teacher education.

More specifically, in recognition of the need to provide more viable solutions for the problems confronting education and educators, the National Institute of Education awarded the Texas Research and Development Center for Teacher Education a planning grant in mid 1978. This planning project was charged to investigate, in a collaborative mode with all constituent role groups, the body of research knowledge presently available in teacher education, and to identify those areas that should be the focus for future research.

Two thrusts were specified by the project to accomplish these objectives. First would be the formulation of a National Planning Committee whose membership would represent the wide array of interests, concerns, and perspectives across the many role groups and organizations involved in the profession. This nationally representative committee would be responsible for the design and operationalization of the second thrust, an international invitational conference. The conference would provide the opportunity for all interested parties to deliberate and delineate the problems and priority issues which research could reasonably be expected to address. Out of this conference a research agenda was synthesized (Hall, 1979).

The conference was anchored by twenty-seven writers who accepted the challenge to survey and synthesize, to explore and report the available research in seven areas of teacher education. In addition, from their experiential knowledge, through their creative analyses, out of their reflective insights and expertise, they would stimulate the interactive thought and wisdom of all collectively involved in the conference. Which they did. Truly, they were the cornerstone of the conference. To them we are grateful.

This volume contains not only the collective wisdom of the paper writers but also the reflections and reactions of fourteen paper discussants who provided additional insights and raised further questions about the directions research in teacher education should take. In short, the richness of their varied perspectives further enhanced the conference proceedings and product. To them we are indebted.

No endeavor based on such diversity can develop cohesion and approach unity without a strong support system, closely monitored and frequently revised. Such management was supplied by Nancy Via on whose slender shoulders the machinations of all conference events rested. She stood tall, and directed operations, both pleasantly and productively, to the end that the multi-variate activites of the pre--, during--, and post-conference periods worked smoothly and successfully. To Nancy, a thousand thanks.

We also wish to thank Joe Vaughan and Virginia Koehler of the National Institute of Education for their input and support throughout this project. A last expression of gratitude goes to Gail Brown who collaborated with us in the final organization and preparation of the papers for reproduction. Her expertise has been invaluable.

To the reader of these papers, we think you will find a testimonial to the strength of teacher education--and a commitment to the pursuit of the improvement of teacher education as we move into the 1980's.

Shirley Hord
Gene Hall

January 1980

Introduction

The increased national awareness of and concerns about issues in teacher education, combined with the impetus for all constituent role groups to collaborate in addressing those issues, led to the formation of the project, "Research and Development Agenda in Teacher Education" (R&DATE), based at the Research and Development Center for Teacher Education at The University of Texas at Austin and funded by the National Institute of Education. The basic goal of the project was to delineate and prioritize crucial, researchable issues in teacher education through the development of a constituent-based national research agenda. In order to achieve that goal, two major activities were carried out: (1) a National Planning Committee was established for the purpose of joint planning that included representatives from significant constituencies; and (2) an invitational conference, attended by researchers, practitioners, policymakers, and other role group representatives, was held to cooperatively generate and address critical issues in teacher education research and development.

The conference was organized around two dimensions: (1) the teacher education continuum (preservice/induction/inservice); and (2) seven topic areas. The "continuum" concept represented the consensus of the National Committee that teacher education be viewed as a continuing process of developing or enhancing knowledge, skills, attitudes, and behaviors throughout the course of professional life. The topic areas, identified as a basis for organizing issues, were: content, process, professionals as learners, collaboration, context, research, and change/dissemination. Once the conceptual framework was established, the National Committee nominated individuals with expertise in the identified areas to do commissioned papers.

The conference framework challenged presenters and participants to analyze the topic areas across the preservice/induction/inservice continuum. The three days of the conference were divided into seven half-day sessions organized around each of the areas. The first part of each session included a presenter's overview of the research and conceptual frameworks currently addressing the topic, followed by several specialist presentations focused on specific research questions generated by the area, and, finally, prepared discussions of the presentations. Those papers and presentations, along with discussant comments, are presented herein, organized within the framework of the seven topic areas.

The second part of each conference session involved small work groups. On the basis of the presentations and their own expertise, these groups worked collaboratively to identify key issues for future research and development in teacher education. These issues were ultimately synthesized and prioritized to generate a set of recommendations for directions for research and development in teacher education for the subsequent three to five years. Following the conference, the National Committee and R&D Center staff developed a set of recommendations for next steps in teacher education research. This collective sense of an appropriate research agenda is summarized at the end of this volume.

Content

Overviewer
B. O. Smith

Paper Presenters
Gary Fenstermacher
Thomas Good
Harold Pratt

Discussants
Kenneth Howey
Charles Ruch

> Existing research and development, for the most part, lacks clear direction for informing content decisions in teacher education. Presently, the content included in teacher education programs is derived from task analyses, professional perceptions, community and student perceptions, and, to a limited extent, theoretical constructs and research. However, the research base to substantiate that certain content should be included (or excluded) from teacher education is almost nonexistent. What research and development activities should be carried out to address the issues related to the content of teacher education across the preservice-induction-inservice continuum? What are the implications of using different approaches to selecting content? How can placement of content along the continuum be determined? What are the possibilities and limitations of using K-12 research findings as a basis for judgments about content goals in teacher education?

B. O. Smith, Professor Emeritus in the Philosophy of Education Department, University of South Florida, Overview Presenter, was asked to develop broad brush strokes across the recent research and development activities related to teacher education content. He was asked to emphasize the preservice-induction-inservice continuum and, in general, to examine issues of the knowledge bases for content for teacher education.

Tom Good, Professor of Education at the University of Missouri and Researcher at the Center for Research in Social Behavior, as a Specialist Presenter was to focus on what he (and to a lesser degree, others) has found from classroom research to be important characteristics of effective teachers. Based on the findings from classroom research, he was requested to nominate questions and issues that might be addressed in future teacher education research.

Specialist Presenter Gary Fenstermacher, Professor in the College of Education, Virginia Polytechnic Institute and State University, has had a background of experience in the policy making for teacher preparation and licensing and has worked in synthesizing classroom process studies and correlational research studies. Based on his knowledge and experience, he was also asked to focus his presentation on problems and issues related to content in teacher education, particularly focusing on the future.

Another Specialist Presenter was Harold Pratt, Science Coordinator, Division of Instructional Services, Jefferson County Public Schools in Lakewood, Colorado, who has had extensive experience in selecting the content for inservice activities for teachers of science. He was asked to discuss the issues confronted in selection of content for specific subject matter areas. Problems of what and how much to present and how what teachers are trained to do intersects with what they try to teach students were to be explained. He was also asked to generate questions that research in teacher education might address.

Discussant Kenneth Howey, Professor in the College of Education at the University of Minnesota, is a nationally recognized leader in teacher education. He has conducted survey research on inservice practices, worked with teacher centers, and has been involved in program development and teacher education association activities. The second discussant Charles Ruch is Dean at the School of Education at

Virginia Commonwealth University. He has provided leadership at his institution and regionally in the areas of teacher education and the mainstreaming movement. Both discussants were asked to reflect on the prepared papers and to tie together the implications they saw for future teacher education research.

ON THE CONTENT OF TEACHER EDUCATION

B. O. Smith
University of South Florida

In this paper I have avoided the research vernacular, an easy task for me, and any consistent effort to summarize the research or to criticize research methods. Instead, my intention has been to climb up, through and over the many studies and to consider what the content of teacher education is. I then turn to research on some phases of teaching and speak generally about our knowledge of them. After that I come to grips with the question of how pedagogical content can be selected for a teacher education curriculum. Before these steps are taken, however, I shall tell how the term "teacher education" is used in this paper.

The Uses of "Teacher Education"

If we are to consider pedagogical content, it is appropriate to note first of all the curriculum domains designated by the term "teacher education." Sometimes the term is used to denote the academic disciplines as well as professional courses, work in both being required for teacher certification. "Teacher education" is also used to refer to professional studies--educational psychology, social foundations, teaching of this and that, student teaching, and so on. When so used, it does not include the academic disciplines. The most restricted usage is that which identifies teacher education with teacher training. It is then used to designate that part of the curriculum which includes only courses in methods and materials in the teaching of various subjects, the curriculum, and student teaching.

It should be remembered that there are at least two levels of training and perhaps of content. The first level is teacher training and the knowledge and procedures involved in it. The second is the training of teacher educators in knowledge and procedures of teacher training. This distinction between levels should go without saying were it not for the fact that colleges of education, after the fashion of graduate schools, have emphasized research training of doctoral students instead of training in professional skills. Consequently, the personnel of colleges of education are maladapted to the job of teacher training. The preparation of teacher educators is a crucial factor in the improvement of teacher education, but it calls for discussion in its own right rather than tangential treatment in this paper.

If you cannot tell from time to time which of these usages I am observing, you will understand my predicament. I certainly do not have enough information to dwell on the academic content of teacher education in the first sense. The second usage is not quite manageable either, even if I possessed enough knowledge. But some of my observations will likely be seen as falling within this usage. The third meaning--"teacher training"--being more limited, is more suited to the purpose and scope of my assignment. But that is all that can be said for it. So, for this paper, let us consider that I am more concerned with the content of teacher training programs than with the wider programs embraced by the first and second senses of "teacher education."

What Is Content?

All can agree that content is whatever is dealt with in textbooks, courses of instruction, or lectures. But for present purposes we must know more than that about what content is. Is it empirically valid? Does it include practical information gained from experience? What are its elements? Does it include skills? These and other questions are to be considered.

First of all, content is information. It consists of definitions, laws or law-like principles, rules, procedures, values, facts, know-how, theories, and ideologies. Pedagogical content is derived from a number of sources: professional wisdom, related disciplines, ideologies, and research. Pedagogical information is not necessarily true. But the usefulness of pedagogical information, as in certain other professions, is not dependent upon its truth value. This is partially true in the realm of politics and in any domain that uses ideology as a justification of action.

Definition. The primary form of content, after primitive terms, is definitions. They are verbal statements by which concepts enter our discourse. They guide the classification of our observations. Without them we do not know what we are working with or talking about.

Law-like principles. Events in a pedagogical setting that occur in sequence of constant uniformity under the same conditions have not been observed. We, therefore, cannot speak of laws as a form of pedagogical content. But there is a law-like content in the form of positive correlations.

Statistically significant correlations take the form of rules in practical settings. For example, if you want low income students to do well on a standard test in history, ply them with questions answered in the text. However, certain conditions, often not stated by the researcher, must be present. The students must be able to read the text, there must be order in the classroom, there must be sufficient allocation of time as well as other conditions.

Moreover, if the concepts, expressed as independent variables, are spelled out in operational terms, we know explicitly what to do to satisfy the rule. If they remain undefined or if they are not spelled out in pedagogical settings, the rule will be of little or no use to teachers. A positive correlation between corrective feedback and student achievement will be of no use to teachers unless they know the different modes of feedback, can tell when it is indicated, and know enough about the subject matter to administer the corrective information. Neglect of this aspect of correlational knowledge in textbooks and by researchers themselves as well as by instructors accounts for much negative reaction to research.

Not all rules are derived from research. Like rules in other professions, many pedagogical rules develop from practical experience. We can readily recall some of them: if a pupil is angry, induce him to sit down; develop the curriculum from the simple to the complex, the near to the remote, the familiar to the unfamiliar; use concrete examples when instructing; one must study hard to learn. In fact, it is possible to view much educational research as refinements and extensions of conventional concepts and rules.

Procedures. These consist of a series of actions to achieve an end. The sequence may deal with such things as problem solving, making a product, or bringing about an event. The actions are neither random nor purposeless, but are arranged to lead to some desired end. Pedagogically speaking, procedural content consists of a description of the sequence of actions to be performed on a particular occasion. We sometimes speak of these as methods of teaching.

Know-how. This form of content is closely related to procedural content. There are two kinds of know-how: how to and how do. We can know how something is done as, for example, how one teaches word recognition without knowing how to teach it ourselves. A procedure, to repeat, is an established way of doing something and procedural content is simply a verbal formulation of it. How do you teach inductively? We can answer this question by performing the actions comprising the procedure or by describing the procedure. In either case one learns how something is done, not how to do it.

To know how to do something is to be able to perform the actions when called upon. If it is a repetitive action, required under specifiable conditions, learned and done with ease, it is called a skill. It may be physical, as in using a blackboard, or mental, as in giving corrective feedback. But actions, and consequently skills, are not content. However, to teach a skill, corrective feedback for instance, we must know its various forms and how they are executed. Then, if a certain kind of mistake is made by a student, we can say to the teacher in training: "This is the way you identify it, and this is what you do and how you do it." What we say to the teacher is the pedagogical content. When the teacher in training can give the feedback as indicated, he or she has acquired a skill.

Values. Values are another form of content, but they are seldom taught explicitly in a program of teacher education. Values are ratings. We say that X is a good principal, and we tell what we mean by giving the criteria for thus classifying X. We may dislike X and yet rate her as good. Or we may rate X as good and still not hire her, but it would be odd to do so. You would expect an explanation. If we say a principal is good and someone disagrees, either the criteria or the data about the principal's behavior are not acceptable. The parties to such disagreements seldom take the trouble to find out wherein the differences lie. Rather they are likely to say: "Well, that is a philosophic question," meaning "don't think about it."

Facts. Little need be said about the factual content. It consists of particular observations: John's IQ is 115; Mr. Simpson's score on the GRE is so and so; John was on task 20 minutes out of 30; Miss X gave corrective feedback 20 times during her science class.

Theory and Ideology. We constantly speak of theory in contrast to practice. We speak of theory of education, theory of teaching, curriculum theory, administrative theory, and counseling theory. Despite these claims, tough minds will look in vain for theory in education. At worst, we find sets of vague and ambiguous concepts, loosely associated, from which no information about any pedagogical state of affairs can be consistently derived. Some concepts in curriculum theory are content, content categories, content selection, objectives, sequence, and difficulty. These are ill defined and almost any approach to curriculum development makes use of them in its fashion. At best, what is called theoretical is a few correlational propositions functionally harmonized to a set of objectives. For instance, independent variables such as higher order questions, probing questions, clarity, and teacher talk when correlated positively with student achievement and functionally synthesized are sometimes viewed as a theory of teaching. Although it is supported by data and mathematical refinements, such knowledge is fragile. Its concepts are ad hoc, holding only for the situation at hand; they have neither explanatory power nor capacity to generate knowledge by deduction. It stands in sharp contrast to the simple gas laws which are explained by and predictable from the kinetic theory of gases. Only in a very loose sense, if at all, can we claim to have a theory about anything in pedagogy today.

What practitioners mean by theory when they exclaim against it is that the ideas threaten to destroy the grounds of their activities vouched for by their professional experience. So long as ideas are perceived as an improvement in their activities, or as replacement of them by others compatible with their general situation, ideas are not decried as theory. This probably explains why novel content-specific concepts, principles, and skills are resisted much less than novel generic ones.

Ideas that threaten the basis of our actions stem from ideologies. In the absence of established pedagogical theory, ideologies move in and give rise to one innovation after another. These ideologies are put forth as if they were valid theories, justified by facts, values, impeccable logic, and theories of learning and development. Today, as in much of the past, pedagogical content is rife with ideologies rather than valid theories.

An ideology is a set of concepts that determines social reality for its believers, concepts defined so loosely that failures can be explained away. Ideologists, unlike scientists, do not seek to analyze the pedagogical situation, for the existing state of affairs is precisely what they aim to replace with a new reality. Advocates of the child-centered movement, for example, were not interested in assessing the pedagogical condition and improving it; rather their thinking was aimed at exposing the assumptions and biases of their opponents in the hope of dissolving the intellectual basis of their thinking and confidence in what they were doing. The child-centered orientation is still with us but wearing a new verbal habit. Ideologies have multiplied since the advent of this movement some sixty years ago. Today we find, among others, different brands of humanism, nondirective teaching, inquiry teaching, and behavior modification.

It is easy for the proponents of anyone of these to claim superiority and to make its case plausible as long as there is no criterion by which to demonstrate it. This is precisely the predicament of the pedagogical profession today. Its intellectual life is saturated with struggles among conflicting ideologies. Unmindful that in a profession, as in society, too many ideologies lead in the end to denial of every system of meaning, education faculties are on the verge of admitting that the development of a coherent program of teacher education is impossible.

Content and Phases of Teaching

To select the content of teacher education we must know the various phases of the teacher's work for which training is to be given. These phases have been conceptualized and labeled in various ways. One analysis reduces the teacher's work to three phases: preinteractive, interactive, and postinteractive. A more elaborate formulation is: input, process, product output, and outcome. I am inclinced to use neither of these schemata but to hold instead to the conventional terms: planning, teaching procedures or instructional processes, classroom control, and evaluation. They are less pretentious and require less translation, for they are familiar to teachers and those who train them. In this paper I shall consider, although briefly, only the first three of these phases.

Planning. Planning consists of deciding upon objectives and teaching procedures, noting the problems and deficiencies of students, adapting objectives to students, selecting activities and subject matter, and deciding the work to be assigned.

Despite the fact that planning of instruction has long been a part of teacher preparation, very little research has been done on it. We have only the most general knowledge about how teachers plan or whether teachers who plan their work carefully are more effective than teachers who do little or no planning (Taylor, 1970;

Zahasik, 1970; Morine, 1973). A recent exploration of teacher planning (Peterson, Marx & Clark, 1978), using a "think-aloud" technique, indicates that subject matter, instructional process and students, materials of instruction, and objectives are the concerns of teachers and in that order.

Considering that the use of objectives in planning and teaching has been emphasized in teacher training for fifty years and intensively in the last decade, it is strange that they should receive less attention than other elements of planning, especially subject matter whose importance has been persistently down played during the same period. Attention to subject matter, according to this study, decreases as familiarity with it increases. More time is then devoted to planning instruction. However, no consistent relationships between planning and student achievement and attitudes were obtained.

The study also notes that some teachers emphasize low order and others high order knowledge in their planning, a characteristic attributed to their cognitive styles. Should this finding be substantiated, its bearing upon training teachers to analyze and manipulate content can be important.

This is an exploratory study and not too much should be made of it. But the fact that planning continues to be an important part of the training program indicates that this phase is in need of more research. Should planning turn out to be of little or no importance in terms of teacher effectiveness, time can be saved in teacher education programs. On the other hand, if planning does enable teachers to be more effective, it would be helpful to know what to teach teachers to plan for, how to plan, and what aspects of planning to emphasize.

Instructional Processes. What should teachers be taught about instruction? This question takes us into research on process variables. I cannot consider this research here. The vastness of the literature forces me to depend upon critical reviews for most of my observations.

We find an extensive number of studies of innovative forms of teaching, many motivated perhaps by ideologies that feed dreams of what teaching should be like. Since the 1920's, research has been done on such innovations as the project method, inquiry teaching, problem-solving method, group process, and indirect teaching. On the other hand, we have had research studies over the same period on conventional methods such as direct instruction, remedial instruction, recitation, lecturing, supervised study, individual instruction, and mastery teaching first worked out by Morrison (1926) and recently revived and refined by Bloom (1976).

Research has attempted to validate both types of teaching in terms of student achievement, problem-solving ability, and attitudes. To my knowledge, however, none attempted to assess these modes of teaching in terms of their adaptability to the school situation, the ease with which they can be learned by teachers, or the cost of their utilization.

From my reading of the extensive and thorough reviews of research on process variables (Brophy & Good, 1974; Crawford & Gage, 1978; Dunkin & Biddle, 1974; Lockwood, 1978; Medley, 1977; Rosenshine, 1976; Rosenshine, 1977), and from my own less thorough study of the research, it appears that innovative variables that emphasize student involvement with methods of thinking rather than with the subject matter are not as effective as content-oriented variables when measured against student achievement. In short, those teaching operations that minimize involvement with the substance of the curriculum, in my opinion, need far more justification of their use in a school devoted to the acquisition of knowledge. And if we can trust recent research (Rosenshine, 1977), there is no good reason to think that students who have acquired knowledge by content-oriented procedures have less ability to solve problems or less desirable attitudes (Bloom, 1976) than those students who have been instructed by innovative methods.

Classroom Control. As for classroom control, empirically based knowledge about the prevention and control of disruptive behavior is meager. It is derived, with few exceptions, from reinforcement principles or from Kounin's research on group management (Kounin, 1970). According to reinforcement principles, we should reward good behavior and ignore disruptive conduct. But, in the latter case, stop it before disruption has time to spread. Kounin found that teachers who are aware of what is happening, able to manage transitions from activity to activity smoothly, can keep students involved, and can handle over-lapping situations are more likely to have less disruptive behavior.

Status of Generic Content

The foregoing observations about the generic content of teacher training do not do justice to the extensive number of research studies nor to the researchers themselves. With this admission, I now wish to risk embarassment by expressing some opinions about the status of generic content. We can think of generic knowledge and skills for each phase of teaching. By "generic" we do not mean that the knowledge and skills are applicable across all grade levels from K through 12. We mean only that they are not content bound. They may hold, and probably do, for Piagetian levels of development or for segments of the school such as preschool and kindergarten, intermediate and middle school, and high school. By knowledge we mean concepts and correlational knowledge and the know-how with respect to the means of attaining objectives.

The following table represents my ill considered judgment of the status of the generic content of teacher training. We shall mean by "status" the degree to which the knowledge is sufficient and dependable enough to provide a basis for improving programs of teacher training.

Content Status	Phases of Teaching			
	Planning	Instruction	Classroom Control	Evaluation
Inadequate				
Somewhat adequate	X		X	
Reasonably adequate		X		
Adequate				X

Status of Specific Content

Specific content consists of content-bound knowledge. A teacher may be well trained in generic content and still be ineffective in teaching primary children to read, especially if they have problems in learning to read. It has long been recognized that characteristics of the subject matter present special problems of teaching. Some of these problems are rooted in physical and psychological characteristics of the learner as these relate to the content, although some appear to be content induced as, for example, indirect relationships which appear to be harder to master than direct ones.

Teacher training programs recognize specific content by providing courses in the teaching of this and that subject. Some of these courses appear to have an abundance of content as, for example, in reading where both introductory and advanced courses are offered. But in other courses, teaching of social studies for example, much less knowledge is available. The research base for instruction in reading is farily extensive, for social studies it is meager and friable. As with generic knowledge, one judges the status of knowledge here at considerable risk of embarrassment. But with far less care than the task requires, I venture to offer the following ratings.

Specific Pedagogical Knowledge and Skills by Subjects	Content Status			
	Inadequate	Somewhat Adequate	Reasonably Adequate	Adequate
Art		X		
Physical Education			X	
Vocational Education				X
Math			X	
Social Studies		X		
Reading			X	
Verbal Expression		X		
Science			X	

Content and Teacher-Student Interaction

Some authorities speak of teaching as social interaction. It is that, of course, but it is more than that. The characteristic that distinguishes teaching from other types of social interaction is that teacher and student interaction typically takes place through a predetermined content. Teacher behavior is meshed with the content no less than with the student, and the student is expected to react to the content in the same way as the teacher, and thus to learn it. Teaching is not interaction as in a dog fight nor as in a physician-patient situation. Neither the dog nor physician wants the other party to become like himself, but teachers do want students to know what they know and in that respect become like them.

Could it be that research on teacher-student interaction via content can lead to ways of increasing the range and depth of student learning? I do not know, but consider for a moment. Do teachers know the pedagogy of the content they teach? Do they know that content consists of concepts, laws, law-like principles, rules, values, procedures, and data? Can they identify the points in their own classroom discourse where they are teaching these elements? From cursory observations, I think the answer to each question is "no." If teachers do not know when they are teaching these elements of knowledge, can they identify the difficulties students have in learning them?

Do those of us who train teachers know how to teach these elements of content? What does research say? We have had a number of studies on concept teaching. But we have not advanced our knowledge beyond what teachers were doing already--giving characteristics and then instances and vice-versa, followed by distinguishing the concept from those with which it is often confused. But as for abstract concepts--those without instances--we have little to say to teachers. Our research knowledge about the teaching of other elements of content--principles, values, procedures--is even more tenuous and fragile.

Researchers have nibbled the edges of the question of how to facilitate student involvement with the content. Studies have been made of the effects of advance organizers, high and low order questions, and concept teaching by instances. But we have made little progress in research on the pedagogy of content. In what ways can content elements be analyzed and manipulated by the teacher? Are all these ways equally effective in inducing learning? What difficulties do students encounter as they try to learn these elements? How can the teacher identify these difficulties? What teaching procedures and materials will enable the student to cope with these obstacles? These are questions that lead directly to research on each type of knowledge.

Elucidation is a task performed by all teachers. They explicate terms, explain events, clarify principles, interpret discourse, give directions. Can research find ways to do these tasks more effectively (Rosenshine, 1979) in specific contents?

It is not enough that teachers focus elucidation procedures and techniques on an entire class. Teachers may be more effective where some students are not learning satisfactorily if elucidation were pupil specific. But how? Just as the reading process must be understood in order to identify learning difficulties so it appears that the content of school subjects must be understood pedagogically to identify where the student needs help. What are the hard spots students encounter as they try to learn the concepts, principles, procedures, and so on of the various school subjects? Are there difficult learnings just as there are learning difficulties? If these were known and diagnoses were made in terms of both of these, elucidation could become student specific.

The intent of the foregoing discussion is neither to disparage our efforts to understand student learning styles, social backgrounds, attitudes, interests, and cognitive development, nor to discount our knowledge of how to relate to students and interact with them socially. Rather the intent is to emphasize the pedagogy of content as a field for potentially profitable research.

Selection of Content: Preservice Criteria

The content of instruction in teacher training programs, like programs of other departments of the university as well as the public schools, is found in the textbooks. The market for textbooks in educational psychology, for instance, is over 300,000 per year. There are probably two dozen such books currently used and they are remarkably alike. They treat the same topics in about the same way and give about the same amount of coverage to each topic. These books are fiercely competitive and they do not stray far from what instructors who teach the courses want, and nowadays what instructors want are texts that students like. The same observation holds for textbooks in other pedagogical subjects.

How do the authors select the content of their texts? They do so from their knowledge of the field, from examining other texts, from surveys of what instructors want, from their own experience as instructors. Of course, the textbook is not the sole source of content. Instructors may emphasize some topics over others and bring additional information from their experiences or from recent research. But on the whole the textbook is the content.

Whether this is the way the content of teacher education curriculums should be selected is not for me to say. It is a widespread practice and is apt to continue indefinitely. To improve teacher education it would appear that textbook research would be promising, although it would be mundane and uninspiring to many of us.

Textbooks notwithstanding, by what criteria should decisions be made about the content of teacher training curriculums? To my knowledge this question has received little attention by researchers. Criteria of content selection have been studied in the general area of curriculum development (Smith, Stanley & Shores, 1956), but except for the Commonwealth Teacher-Training Study (Charters & Wophs, 1929), made almost fifty years ago, the problem of criteria has received little attention.

The problem has been approached recently by task analysis. This is a promising tack. At least three general conditions are required by this approach. For one thing, the tasks to be analyzed must be selected. This can be accomplished by armchair procedures using professional wisdom or by identifying tasks performed by competent teachers. For another thing, information from task analysis is most dependable when the object of analysis is the performance of tasks by a teacher who can do the tasks at an optimum level of proficiency. Finally, analysis of how a competent teacher performs a task does not give us all the information we need to train a prospective teacher after the fashion of the master. Let us assume that master teachers plan what they will do in class from day to day and that we know how they plan--that they decide upon objectives, select learning activities, select subject matter, and so on. Do we thereby know how they decide upon objectives, select activities, and so on? All of these will require further analysis. Finally these analyses must be validated by varying the classroom situation in which the teacher performs. Even then there will be background information that the teacher in training must learn in order to perform as does the master. In all these decisions the ultimate criteria are the rules for selecting the master teacher.

Task analysis, no matter how well done, is subject to more general criteria. The first is that reliable content be included in the program of teacher education. By "reliable" we mean two things. First, the knowledge and skills whose effectiveness has been determined objectively by the criterion of student achievement. Second, knowledge or skills derived from related fields and known to be useful; for example, reinforcement, a practice teachers have always used although without the underpinnings of research. And finally those practices whose usefulness is confirmed by the professional experience of a long line of teachers.

The preservice student should not be exposed to theories and practices derived from ideologies and philosophies about the way schools should be. The rule should be to teach, and to teach thoroughly, the knowledge and skills that equip beginning teachers to work successfully in today's classroom. Those who can succeed there are not thereby less inclined to seek improvements.

There is a long standing claim that teacher training institutions should not teach those practices that abet conventional modes of schooling. The argument is appealing and I have on occasions been party to it. But I have come to think that the time has come to take a hard look at this position. I know of no training program in other fields that includes the task of reconstructing the system for which it is preparing personnel. To do so would be mischievous. This responsibility is typically left to the professionals in the field, to government agencies, and professional organizations. The duty of a teacher training institution, in my view, is to improve practices that already work, to weed out by research those that do not work, to find more effective practices by research and to devise ways of teaching these to professionals in their preservice preparation and later when needed.

The second criterion is that the knowledge and skills of the training program be appropriate to the grade or maturation level of the students. What a teacher must know and do to be successful in the kindergarten and primary grades is quite different from what a high school teacher needs for success. The skills for organizing and managing a primary classroom are not the same as for a high school classroom. Special courses with their own appropriate content in learning and development (Brophy, 1976) as well as courses on procedures and techniques should be developed for each level of the maturity gradient. This has been accomplished to a large extent already for procedures and techniques.

The third criterion is the principle of utility. The content of the preservice program should emphasize those elements most frequently used by competent teachers. It would be well if all the content satisfying the first criterion above could be taught to prospective teachers. But time is short. In most colleges it amounts to approximately 18 to 30 semester hours of professional studies, barely more than a semester's work, and much of it is presently consumed in "theory" courses. For this reason, frequency of use appears to be a criterion to consider.

The fourth criterion is need of help in learning. The test of helping professions is whether they can serve those who cannot get along without them rather than those who can proceed or make progress on their own.

Achievement data of almost any school will show that a large proportion of students, perhaps half of them, are achieving satisfactorily. These are the students who are likely to learn so long as they are given assignments, materials to study, reasonable encouragement, and feedback about their progress. Almost any educated individual with a bit of teaching experience can be successful with these students. It is this fact that lends weight to the claim of our academic colleagues that pedagogical studies are useless. Could it be that most of the content of education courses consists of knowledge and skills more suited to teaching these students than those who most need the teacher's help? Could it be that this bias in the training program, if it does exist, explains why teachers with few exceptions prefer not to teach low achieving students?

The remainder of the students have varying degrees of difficulty in learning. Perhaps two-thirds of the remainder can handle their problems of learning with a modest amount of help--diagnosis and consequent adjustment of procedures and materials, corrective feedback, and encouragement. The remaining students will likely require much more of the teacher's attention, for their learning difficulties are likely to be severe. Students with these varying degrees of learning difficulty test the adequacy of our professional knowledge no less than the competence of teachers. If we cannot succeed with these students, should we be surprised should our credibility as a profession be questioned?

If this fourth criterion were accepted, the content of the preservice program should consist primarily of that knowledge and those skills that enable the teacher to be effective with students who are not likely to progress without considerable teacher assistance.

The Stanford project on teacher training (Crawford & Gage, 1978) has formulated a number of recommendations for training that appears to conform to the first and second of the foregoing criteria. This project took as the sources of its empirical knowledge four studies, two studies of Follow Through (Soars, 1973; Stallings & Kaskowitz, 1974), the Texas Teacher Effectiveness Study (Brophy & Evertson, 1974), and the Beginning Teacher Evaluation Study (McDonald & Elias, 1976). A summary of the recommendations is given in Appendix B. These recommendations, however, are not content. They tell us what the teacher should do, but the knowledge and skills necessary to follow these recommendations are not given. Without the packets developed for the training program, we can only assume that the appropriate knowledge is provided.

Content Selection: Inservice Criteria

The foregoing criteria apply also to the selection of content for inservice training. But there are additional considerations. Inservice training has been defined in various ways. To some groups and individuals it is whatever teachers do to improve themselves as persons, as teachers, and to advance in the profession. To others, inservice refers to whatever satisfies the professional needs teachers themselves perceive. To still others it means courses for college credit and for continued certification. But I think it is useful to distinguish work taken by teachers to advance their career and to satisfy their personal interests from work taken to improve their performance on the job. In this paper, the latter is inservice training, the former is not.

In the final analysis, the content of inservice education depends upon the deficiencies of the instructional program of the school, not upon the teachers' perception of their individual needs. If assessment data show that students are deficient in mathematics achievement, the content of inservice education for that school should be selected with reference to that deficiency. Each teacher's perception of his or her need respecting the teaching of mathematics is then relevant. The need may be for more knowledge of mathematics, for more skill in diagnosing difficulties of students, for more skill in providing feedback, or for all of these and more. If the deficienty is in classroom management and control, then needs assessment of individual teachers should be made with respect to that problem and the content selected accordingly.

There is another kind of inservice training; namely, that designed to provide the knowledge and skills required by an innovation. If a school system is to make changes that entail new norms such as those involved in personnel relationships and school organization, then inservice education will be needed. The content will be defined in terms of what the innovation requires for its installation, operation, and stability.

The identification of school deficiencies is a responsibility of the local system and state departments of education. The function of the college of education is primarily to render a service. It cannot and should not have an inservice program independent of the needs of the schools. However, the college of education can organize its personnel to provide inservice training when called upon to do so.

Content Selection: Career Development

Programs for career development lead to college degrees and are under the control of the University. These are post baccalaureate programs and lead to specialized competence. It is not possible to discuss the content of these programs here, but one or two questions may be worth considering as a matter of policy. Should these programs be designed to produce competent principals, curriculum directors, counselors, reading specialists, teachers and so on rather than to produce researchers? In other words, should colleges of education become truly professional schools? The way this question of policy is answered will have a decisive influence on content selection for career development.

Epilogue

No one should conclude from the foregoing discussion that teacher education cannot be radically improved with the pedagogical knowledge now available. Naturally, new knowledge is always desirable. Teacher education today, however, suffers not so much from lack of knowledge as from feebleness of will, from loss of nerve to use what knowledge there is to shape a coherent and orderly program. The knowledge base of teacher education is just as substantial as that of medicine when Flexner made his famous report. Medical education pulled itself up by the aid of a model.

So far as I know, today there are only two concerted attempts to design a systematic teacher education program: the competency/based movement and the Wisconsin IGE project. No other developments approach these in scope, thoroughness, and effective use of pedagogical knowledge. Universal acceptance of some such design as these would not only lead to more competent teachers but also provide a context in which the results of research can become cumulative.

Ten years ago I wrote,

> Teacher education is at a critical point in its history. There is now enough knowledge and experience to reform it, to plan a basic program of teacher education for an open society in a time of upheaval. But if this knowledge and experience are dissipated in prolonged discussions of issues, doctrines and tenets leading only to more dialogue, instead of a fundamental program of education for the nation's teachers, teacher education is likely to fragment and its pieces drift in all directions.

It is later, I fear, than we think.

References

Bloom, B.S. Human characteristics and school learning. New York: McGraw-Hill, 1976.

Brophy, J.E. Reflections on research in elementary schools. Journal of Teacher Education, 1976, 27(1), 30-34.

Brophy, J.E., & Evertson, C.M. Process-product correlations in the Texas teacher effectiveness study. Final report. Research Report No. 74-4. Austin: Research and Development Center for Teacher Education, The University of Texas, 1974.

Brophy, J.E., & Good, T.L. Teacher-student relationships: Causes and consequences. New York: Holt, Rinehart & Winston, 1974.

Charters, W.W., & Waples, D. The commonwealth teacher-training study. Chicago: University of Chicago Press, 1929.

Crawford, J., & Gage, N.L. Development of a research-based teacher training program. California Journal of Teacher Education, 1978, 4(2), 105-123.

Dunkin, M.J., & Biddle, B.J. The study of teaching. New York: Holt, Rinehart & Winston, 1974.

Kounin, J.S. Discipline and group management in classrooms. New York: Holt, Rinehart & Winston, 1970.

Lockwood, A.L. The effects of values clarification and moral development curricula on school-age subjects: A critical review of recent research. *Review of Educational Research*, 1978, *46*(3), 325-364.

McDonald, F., & Elias, P. The effects of pupil performance on pupil learning. *Beginning teacher evaluation study: Phase II, final report: Vol. I.* Princeton, N.J.: Educational Testing Service, 1976.

Medley, D.M. *Teacher competence and teacher effectiveness*. Washington, D.C.: American Association of Colleges for Teacher Education, 1977.

Morine, G. Planning skills: Paradox and paradise. *Journal of Teacher Education*, 1973, *34*, 135-143.

Morrison, H.C. *Practice of teaching in the secondary school*. Chicago: University of Chicago Press, 1926.

Peterson, P.L., Marx, C.W., & Clark, R.M. Teacher planning, teacher behavior, and student achievement. *American Educational Research Journal*, 1978, *15*(3), 417-432.

Rosenshine, B.V. Academic engaged time, content covered, and direct instruction. Urbana: University of Illinois. Unpublished paper, 1977.

Rosenshine, B.V. Objectively measured behavior predictors of effectiveness in explaining. In I.D. Westbury & A.A. Bellack (Eds.), *Research in classroom processes*. New York: Teachers College Press, 1971.

Rosenshine, B.V. Recent research on teaching behaviors and student achievement. *Journal of Teacher Education*, 1976, *27*(1), 61-64.

Smith, B.O., Stanley, W.O., & Shores, J. H. *Fundamentals of curriculum development*. New York: Harcourt, Brace & World, 1956.

Soars, R. *Follow through classroom process measurement and pupil growth. Final report (1970-71)*. Gainesville: Institute for the Development of Human Resources, University of Florida, 1973.

Stallings, J., & Kaskowitz, D. *Follow through classroom observation evaluation, 1972-73.* Menlo Park, Calif.: Stanford Research Institute, 1974.

Taylor, P.H. *How teachers plan their courses*. Slough, England: National Foundation for Educational Research in England and Wales, 1970.

Zahasik, J.A. The effect of planning on teaching. *Elementary School Journal*, 1970, *71*, 143-151.

APPENDIX A

Summary of Teacher Training Recommendations

Behavior Management and Classroom Discipline

(1) Teachers should have a system of rules that allows pupils to attend to their personal and procedural needs without having to check with the teacher.

(2) Teachers should prevent misbehaviors from continuing long enough to increase in severity or spread to and affect other children.

(3) Teachers should attempt to direct disciplinary action accurately--that is, at the child who is the primary cause of a disruption.

(4) Teachers should keep "overreactions" to a minimum (even though overreactions are probably effective in stopping the misbehavior).

(5) Teachers (and aides, if present) should move around the room a lot, monitor pupils' seatwork, and communicate to the pupils an awareness of their behavior, while also attending to their academic needs.

Instructional Methods

(6) When pupils work independently, teachers should insure that the assignments are interesting and worthwhile and still easy enough to be completed by each third grader working without teacher direction.

(7) Teachers should keep to a minimum such activities as giving directions and organizing the class for instruction. They can do this by writing the daily schedule on the board, insuring that pupils know where to go and what to do, etc.

(8) Teachers should spend at least one-third to one-half of their time teaching larger groups of pupils (more than eight children). When they do teach smaller groups or individuals, they should take steps to make sure that the other pupils in the class have work to which they can attend.

(9) Teachers should make abundant use of textbooks, workbooks, and other pencil-and-paper activities. These have been found to be associated with higher pupil achievement. But the use of games, toys, and machines has not been found to be associated with higher pupil achievement.

(10) Teachers should provide visual demonstrations and phonics exercises in conjunction with reading activities.

(11) Teachers should frequently conduct public (i.e., addressed to a larger group or the whole class) question-and-answer sessions concerned with the academic subject matter at hand. With less academically oriented pupils, teachers may find it helpful to initiate some brief private discussions concerning personal matters.

Specific Methods for Asking Questions and Providing Feedback

(12) In selecting pupils to respond to questions, teachers should use the technique of calling on a child by name before asking the question, as a means of insuring that all pupils are given an equal number of opportunities to answer questions.

(13) Teachers should avoid calling on volunteers more than 10 or 15 percent of the time during question-and-answer sessions. It is also advisable to discourage pupil "call outs" to questions asked of other children (except possibly from less academically oriented children who may benefit from this type of activity).

(14) In the interest of promoting smooth, task-oriented discussions, teachers should not encourage large numbers of pupil-initiated questions and comments. It is also important for teachers to listen carefully to pupils' opinions and, if a disagreement is called for, to express such disagreement to the child.

(15) With *less* academically oriented pupils, teachers should ask easier questions--questions that can almost always be answered correctly. When questioning *more* academically oriented pupils, teachers should ask more difficult questions--questions that are answered incorrectly about one-fourth of the time.

(16) Teachers should give praise only for really outstanding work; also, praise is likely to be more effective with less academically oriented pupils. Mild criticism is effective in communicating higher expectations ("you can do better") to more academically oriented pupils.

(17) With less academically oriented pupils, teachers should always aim at getting the child to give *some kind* of response to a question. Rephrasing, giving clues, or asking a new question can be useful techniques for bringing forth some answer from a previously silent pupil or one who says, "I don't know" or answers incorrectly.

(18) With more academically oriented pupils who generally become actively involved in discussions, teachers should concentrate on getting the *correct* response. Therefore they should redirect questions to other pupils if the more academically oriented pupil answers incorrectly.

(19) Teachers should give the answer (to both more *and* less academically oriented pupils) if the response is at least partly correct. Teachers should not simply repeat the same question if any pupil (either more or less academically oriented) answers incorrectly, says, "I don't know," or remains silent.

(20) With *more* academically oriented pupils, teachers should give brief feedback extensively (80% or more of the time) during private, one-to-one discussions. When dealing with *less* academically oriented pupils, teachers should use approximately equal amounts of brief and longer feedback, tailoring the duration of their reactions to the needs of the individual child in each situation.

(21) During reading-group instruction, teachers should give a maximal amount of brief feedback, and provide fast-paced activities of the "drill" type.

(22) During public question-and-answer sessions, teachers should occasionally give a detailed, "why" explanation in answer to a question.

WHAT NEEDS TO BE KNOWN ABOUT WHAT TEACHERS NEED TO KNOW?

Gary D. Fenstermacher
Virginia Polytechnic Institute & State University

Considerations of the content of instructional programs are often thought to be matters of curriculum. As such, it would be customary to begin this paper with a statement of aims for a teacher education program, then follow with prescriptions based upon these aims. But, the inquiry to be undertaken here will not be customary. Rather than beginning by looking at the content of teacher education programs, I shall try first peering into the contents of teachers' minds. Questions and issues of program content will be addressed after gaining a sense of what it would mean to direct the attention of researchers to the intentions teachers have for their classroom behavior.

The point of this paper is to raise questions and propose hypotheses for research in teacher education. The reader will note that, in the course of this endeavor, I am seduced by my own thinking--frequently treating hypotheses I hope will be investigated as if they were already established. I view this predicament as allowable allure, for two reasons. First, the hypotheses proposed are based on thoughts formed from a number of different kinds of experiences with educating teachers. Second, I find it boring, and presume others do, too, to read endless strings of "what if" statements. Clear of this caveat, we may turn to the matter at hand.

Do Teachers' Intentions Account for Their Behavior?

The first question that I hope will puzzle students of teacher education is whether a teacher's reasons, motives, plans, and deliberative choices determine his or her performance in the classroom. If these mental phenomena, all of which I group under the general category of intentions, do not guide or direct behavior, then teachers are automata of some kind; robots in the skin of persons, performing functions dictated or assigned rather than employing their minds to assess evidence, evaluate conduct, reflect on principles, and deliberate beliefs and knowledge claims. If the intentions of teachers do guide and account for their performances, then these performances are actions. As such, they are subject to praise, criticism, appraisal, and other forms of review. An hypothesis that follows from questioning the link between intentions and behavior is that the intentions of teachers do guide and account for their performances.* If this hypothesis were confirmed, those who seek to understand why teachers do what they do must inquire into their intentions. These same seekers might also ask from where teachers obtain their intentions.

What Are the Sources for the Intentions of Teachers?

The second question seeks an answer to the origins of teachers' intentions. Teacher educators have a vested interest in believing that they constitute the headwaters of teachers' intentions, that teachers' reasons, motives, and plans flow from their preparatory training. But a more promising hypothesis may be that the teacher's experiences with the school as workplace are the sources of intentions.

---

*The terms "behavior" and "performances" are used synonymously. The terms are interchanged frequently as a way of foiling any unwitting association of the term "behavior" with the school of thought of behaviorism.

If, for example, one asks a teacher why the pupils are practicing two-digit subtraction without regrouping, a likely reply is that the pupils are learning to do two-digit subtraction without regrouping. Why are they learning to do that? So that they become competent at calculation. Why is it necessary to become skilled at calculation? So that they will incur less difficulty at the higher grades, compete more effectively for college admission or employment, and be capable of managing domestic finances.

Where did these answers come from? How did they get into the heads of teachers? The hypothesis just proposed contends that the teacher obtained these answers on the job--that the experience of being a teacher in a school shaped the intentions that guide and account for instructional performances. If this hypothesis were confirmed, the implications for preservice and inservice education would be significant. If teachers' intentions are formed and shaped by their work experiences, then the impact of teacher education programs on teachers appears modest, at best. Unless, of course, there is great consistency between the content of the programs and the experiences of the workplace. Where consistency of this magnitude obtains, there is cause for alarm. The reasons for this claim must wait, else the conclusions will get too far ahead of the premises.

What Workplace Experiences Have the Most Powerful Effects on Teachers?

If teacher intentions guide and account for teacher behavior, and if these intentions are formed out of the experience of teaching, then are some experiences more powerful than others for shaping teachers' intentions? This question may be approached in two ways. First, are some kinds of experiences more powerful than others? Second, are some spans of time in the duration of experience more potent than other spans? Among the hypotheses serving as candidates for answers to these questions is this one: the teacher's experiences with the institutional characteristics of schooling are the most potent determinants of teachers' intentions. Further, the institutional characteristics of schooling experiences during induction are more powerful determinants than experiences gained during other spans of time.

The institutional characteristics of schooling include form of organization, patterns for the exercise of power and authority, reward structure, and ways of employing technical language and symbols. The induction period, loosely defined, is that span of time from the start of student teaching to the point at which the teacher ceases to express surprise with perceived expectations of the workplace and exhibits confidence in his or her ability to realize most instructional objectives, most of the time, with at least modest degrees of success.* Confirmation of the two hypotheses stated above would suggest that, though teachers may differ in their manner of adapting and accommodating to the workplace, their views of what they do, how they do it, and to whom they do it are formed largely by the institutional features of schooling experienced during induction.

What Happens to Teachers' Intentions During the Induction Experience?

So far, the discussion suggests that, prior to induction, the teacher's mind is a *tabula rasa*, and that only enced during the transition from pre-induction to induction is the result of significant logical inconsistency between entry intentions and intentions the teacher perceives are required to make it through induction.

---

*There may be several inductions for a given teacher, such as when an experienced primary school teacher elects or is assigned to a middle or high school. The induction period defined above may be thought of as the primary induction, while subsequent changes of setting are secondary inductions. It is worth noting that radical changes in the pupil populations of a school or in school leadership might also require major adjustments or intentions. But these experiences are not, strictly speaking, induction experiences.

Should a Preservice Teacher Education Program Prepare Prospective Teachers for a Troublefree Induction to Schooling?

To ask whether preservice programs ought to get teachers ready to execute skilled performances that meet the expectations of the workplace marks a double shift from the kinds of questions asked previously. The inquiry has now turned from the contents of teachers' minds to the content of teacher education programs. And this question is a normative one rather than empirical. It is still in order to propose hypotheses as tentative answers to the questions, but these hypotheses will not yield to experimental or *ex post facto* research, nor even to ethnographic or ethnomethodological study. Normative questions require moral inquiries; philosophers provide guidance here, though the inquiry itself is open to anyone who thinks with care and respects evidence in all its forms.

One way of viewing a preservice program designed to enable the students in it to accomplish smoothly the transition to induction, as if the student fit the induction experience like a glove, is that such a program is preparing the students for the facile shaping of their intentions by the institutional features of the induction experience.* The induction then becomes something that happens to teachers, like an automobile accident, a windfall inheritance, or a birthday. If the shaping of teachers' intentions is something that *happens* to them, in contrast to their forming intentions through deliberation, reflection, choosing, sifting evidence, and appraising circumstances, then it is more the case that the preservice program is programming teachers rather than educating them. It does not matter a whit that the induction experience may represent the finest moral and aesthetic attainments of the human race. The goodness that others attribute to some phenomenon would not justify their preparing another person for the uncritical acceptance of it--except, perhaps, were it a religious event. Despite some parallels between teaching and preaching, few among us are willing to consider teacher preparation a religious endeavor (even in cases where the point of the teaching is to encourage another to be religious). The performances of teachers who are prepared in ways that "fit" them for their induction experiences are but marginal actions; though related to intentions (as actions are), these performances are guided by and accounted for intentions formed by the raw institutionalization of the mind.

---

*As noted at the beginning, I am here assuming confirmation of the very claims I considered to be hypothetical. The reader should proceed with circumspection.

Abandoning preparation for induction is not the only way of avoiding programming. There is another way to look at the preservice-induction connection. A readiness for induction may be understood as the ability to cope with and even control the impact of induction. In this case, the teacher is aided in forming intentions based on a reasoned and morally defensible view of education, and is then assisted in preserving and protecting these intentions from incursion by the institutional trappings of the induction experience.* On this view, preservice education is, among other things, a provision of the means to structure the experiences of induction; i.e., providing the means for analyzing, interpreting, evaluating, and choosing experiences that, in Dewey's words, "live fruitfully and creatively in subsequent experiences" (1963, p. 28).

What Might Be the Content of Teacher Education Programs Offered During Induction and While the Teacher Is Inservice?

With growing emphasis on the continuing professional education of teachers, it is reasonable to ask the purpose of programs provided during induction and inservice. One assumes that any new knowledge or skills developed at these times would be incorporated into teachers' intentions in use. If, however, this intention set is shaped largely by induction experiences, then it may be nearly impervious to notions advanced during continuing professional education. Continuing education may add mostly to the set of intentions in storage, while having little impact on intentions in use (thus, that teachers are "taking in" these new ideas and techniques is not *prima facie* evidence that this new understanding or skill will have any enduring effect on their performances). The problem is to find out how worthwhile advances in knowledge and technique can be incorporated into the intention set in use.

---

*The rhetoric, at least, of the university professorship embodies a similar approach to intentions and socialization by the institutional features of the university. Presumably the academic disciplines and their standards of scholarship provide the professor with values and beliefs that shape intentions which guide and account for research, teaching, and service. The irateness ~~of profe~~ssors at the prescriptive interference of a legislator or a university administrator is not merely a protest on behalf of academic freedom. It is resistance to attempts by others to get professors to adopt different intentions for their work--intentions more in line with the legislator's sense of the social good or the administrator's sense of institutional needs.

It seems clear that the burden for change and innovation cannot fall solely upon the teacher. Yet, if none of the other systemic characteristics of the teacher's setting are changed, it does not require much foresight to see that the new knowledge or skill acquired by the teacher will be filed in the set of intentions in storage. Research in teacher education shares responsibility for understanding how institutional features may be altered to facilitate the conversion of a teacher's new knowledge or skill to intentions in use. If a new idea is thought worthy of serious consideration by practicing educators, then it may be that before we can reasonably expect teachers to modify their performances, three things must happen: (1) the teacher is given the opportunity to study the evidence and argument on behalf of the new idea, as part of the process of adopting new intentions or modifying old ones; (2) the teacher is helped to understand how features of the existing setting may be controlled in ways that facilitate expression of new or modified intentions in performance; and (3) information is available that shows what features of the setting not under the direct control of the teacher must be altered in order to encourage teacher performances based upon new or revised intentions. An important task for future research in teacher education is to aid the teacher in answering the question: What, in the setting in which I work, must be different before I can do this new thing well? The allocation of research talent to this question is predicated, of course, on an affirmative answer to the question of whether this new thing is worth doing at all.

What Is the Point of This Paper?

When teacher educators think about the content of teacher education programs, they frequently presuppose the matter to involve conventional kinds of questions about curriculum: What should teachers be able to do? What studies enable them to do this? The point of this paper is that these questions should be recast as questions about the contents of teachers' minds and the contents of teachers' workplaces. Future research may profitably be directed to determining whether the contents of workplaces (especially their institutional features) are the critical determinants of the contents of teachers' minds. If they are, then the "real" curriculum of teacher education is the teacher's on-the-job experience.

If experience alone is the basis for intentions that guide performances, the teacher is captive to the contents of the workplace. But, it may be possible to assist the teacher in understanding the contents of the workplace in ways that enable the teacher to cope with and exercise control over them. If the induction experience proves to be among the most powerful experiences leading to the shaping of intentions, then a preservice program might undertake to instruct teachers in ways that they can analyze, interpret, appraise, and choose among workplace experiences. The purpose of enabling teachers to structure their workplace experiences is so that they might possess the understanding, courage, and power necessary to pursue worthwhile aims.

Before we can expect teachers to behave in ways that reflect intentions based upon worthwhile aims, we are in need of far more knowledge than we have of the interactions between teachers' intentions and features of their workplaces, of the manner in which teacher intentions are formed and changed, and of the origins of teachers' intentions. Also needed is greater understanding of how variations in the contents of the workplaces influence the shaping of teachers' intentions. Without this knowledge, the continuing education of teachers may yield little more than good intentions placed in storage.

Many teacher educators are rightfully preoccupied with the question of how teachers may be educated so that they, in turn, foster the development of rational, moral, aesthetically sensitive persons. What is often missed in this nobel passion is a prior question: How do teachers who hold good intentions for their pupils put them to use in the setting of the modern school? Does the modern school permit and encourage teacher performances expressive of intentions based on an objectively reasonable, morally defensible concept of education? If so, how is this done? If not, how are teacher education and features of the workplace changed to permit the expression of good intentions?

Bibliographic Essay

The ideas set forth in this paper differ in two respects from much of the usual discussion about research on teacher education. First, the tone and substance are distinctly non-behaviorist and non-materialist. Second, the line of reasoning pursued appeals to a normative (moral) concept of education. The supporting rationale for these differences is not included in this paper, but may be found in my article, "A Philosophical Consideration of Recent Research on Teacher Effectiveness" (Fenstermacher, in press).

My reasons for being non-behaviorist and non-materialist are that I believe that one of the central purposes of education is to enable students to think rationally and act as moral agents. The development of rational, moral persons is aided, in my view, by teachers who think rationally and act as moral agents. From this, I conclude that teachers ought to be treated, in their education, as rational and moral agents. Hence, the intentions of teachers count for a great deal, both as phenomena to be studied and as phenomena to be taken very seriously when engaging teachers in their own education and in the education of others. We are, I believe, obligated to treat teachers as we hope they will treat those whom they teach. These beliefs have been strongly influenced by contemporary American and British philosophers of education, most notably T. F. Green (1973) and R. F. Dearden, P. H. Hirst, and R. S. Peters (1975). Also of value is a recent collection of essays by Maxine Greene (1978).

Our ability to treat teachers as rational and moral agents is contingent on being able to account for their actions in school settings. Unfortunately, too much research has concentrated on finding out what makes teachers effective (on some currently popular criterion) rather than on what explains the actions of teachers. It seems sensible to contend that before trying to get someone to behave differently, we ought to find out why they are behaving as they do now. This point is frequently missed, however. But not by everyone.

Teachers themselves have tried to explain why they do what they do. The accounts by Kozol (1967) and Kohl (1967) are prime examples. One of the best of these, in my view is G. E. Levy (1970). Also helpful are the works that report teachers' attitudes, beliefs, and views. These include E. M. Bower (1973); T. J. Cottle (1973); and Estelle Fuchs (1969). More work of the kind done by Studs Terkel (1972) would be a great asset to accounting for the beliefs and performances of teachers.

In addition to these self-reports and transcribed reports, there has been much more systematic work in the area, particularly by educational sociologists. Jackson's Life in Classrooms (1968) has just about attained the status of a classic. More recent and more germane to the topic of this paper is D. C. Lortie's Schoolteacher (1975). S. L. Lightfoot's Worlds Apart (1978) is an insightful study on the ways parents and teachers deal with and influence one another. In an article to appear shortly in Educational Researcher, T. S. Popkewitz (in press) provides an articulate picture of the powerful effects of the institutional features of schooling--though his purpose in doing so is different from my concerns in this paper.

The customary preoccupations of psychologists have kept them from taking a deep interest in the systemic characteristics that account for human behavior. Some recent literature suggests that the trend is changing. J. E. Brophy and T. L. Good (1974) examine the effects of students on teachers, and how these effects are manifested in the attitudes and performances of teachers. This work could be read as a challenge to the hypothesis that institutional features are the most powerful determinants of teachers' intentions; the students may be more powerful determinants. (Lortie's data suggest that teachers' experiences with school as students, and with former teachers may be very powerful determinants.) The work of D. C. Berliner (1978) and others on the Beginning Teacher Evaluation Study exhibits a modest orientation to factors affecting teachers' beliefs and performances. The BTE Study produced an enlightening paper on research techniques that may succeed in probing some of the dimensions of teacher actions discussed by C. W. Fisher and D. C. Berliner (1977).

The work of Shulman, Lanier, and others at the Institute for Research on Teaching holds great promise for insights resulting from taking seriously the contents of teachers' minds. The manifesto guiding this work and a description of some of the Institute's programs are described by L. S. Shulman and J. E. Lanier (1977).

On preparing teachers to cope with and control induction, I have been able to find very few sources. That there is very little literature on this topic I take as an unobtrusive indicator that too many researchers passively accept the view that teachers are to be trained to do what the schools (the public? the state?) consider appropriate for them to do. While this stance may be justifiable on some grounds, there does appear to be a difference between what those who occupy roles in schools consider appropriate for teachers to do and what teachers actually conclude is appropriate for them to do. With the appearance of Walter Doyle's work (1979) in the forthcoming 1979 NSSE Yearbook on Classroom Management, there may be an upsurge of interest in studies that assist teachers in coming to grips with their workplaces.

Finally, for those who would like to probe more deeply into the philosophical issues behind this paper, I recommend L. D. Spence (1978). Spence's thesis is that the proper task of the social sciences is to control the impact of social and political institutions on human life. Another provocative work in a somewhat similar vein is L. Laudan (1977). There is a Kuhnian-like revolution taking place in the philosophy of social sciences, and if educational researchers will come to grips with it, the future looks very bright.

References

Berliner, D. C. Report of an intervention in classrooms following the beginning teacher evaluation study model of instruction, Tech. Rep. VI-1. San Francisco: Far West Laboratory for Educational Research and Development, 1978.

Bower, E. M. Teachers talk about their feelings. Rockville, Md.: National Institute of Mental Health, 1973.

Brophy, J. E., & Good, T. L. Teacher-student relationships. New York: Holt, Rinehart & Winston, 1974.

Cottle, T. J. The voices of school. Boston: Little, Brown & Co., 1973.

Dearden, R. F., Hirst, P. H., & Peters, R. S. (Eds.). Education and the development of reason. London: Routledge & Kegan Paul, 1975.

Dewey, J. Experience and education, 1938. New York: Collier Books, 1963.

Doyle, W. In D. E. Duke (Ed.), 1979 NSSE yearbook on classroom management, in press.

Fenstermacher, G. D. A philosophical consideration of recent research on teacher effectiveness. In L. S. Shulman (Ed.), Review of research in education, 6. Itaska, Ill.: F. E. Peacock, in press.

Fisher, C. W., & Berliner, D. C. Quasi-clinical inquiry in research on classroom teaching and learning, Tech. Rep. VI-2. San Francisco: Far West Laboratory for Educational Research and Development, 1977.

Fuchs, E. Teachers talk. Garden City, N.Y.: Doubleday Anchor, 1969.

Green, T. F. The activities of teaching. New York: McGraw-Hill, 1973.

Greene, M. (Ed.). Landscapes of learning. New York: Teachers College Press, 1978.

Jackson, P. W. Life in classrooms. New York: Holt, Reinhart & Winston, 1968.

Kohl, H. R. 36 children. New York: New American Library, 1967.

Kozol, J. Death at an early age. Boston: Houghton-Mifflin, 1967.

Laudan, L. Progress and its problems: Toward a theory of scientific growth. Berkeley: University of California Press, 1977.

Levy, G. E. Ghetto school. New York: Pegasus, 1970.

Lightfoot, S. L. Worlds apart. New York: Basic Books, 1978.

Lortie, D. C. Schoolteacher. Chicago: University of Chicago Press, 1975.

Popkewitz, T. S. Educational reform and the problem of institutional life. Educational Researcher, in press.

Shulman, L. S., & Lanier, J. E. The institute for research on teaching: An overview. Journal of Teacher Education, 1977, 28 (4), 44-49.

Spence, L. D. The politics of social knowledge. University Park, Penn.: The Pennsylvania State University Press, 1978.

Terkel, S. Working. New York: Random House, 1972.

RESEARCH ON TEACHING*

Thomas L. Good**
University of Missouri--Columbia

This paper presents my perspective concerning what research says about teacher effectiveness in public schools. It makes no attempt to characterize the general view of classroom researchers. The restricted page limit makes it difficult even to convey my personal impressions; the interested reader may want to consult other papers for a more comprehensive statement (Good, in press; Good & Power, 1976).

Preparing a brief overview for an audience with diverse backgrounds is fraught with difficulty. However, since some in the audience are relatively unaware of recent evidence on teacher effectiveness, I have decided to devote the major portion of the paper to developing the theme that classroom research has begun to produce important, useable knowledge. Unlike some teacher educators and classroom researchers, I believe the data base for identifying some of the content for teacher education programs is beginning to emerge. I do not have much space to discuss the meaning of those results for teaching training programs, but I will be expressing my views at discussions throughout the conference.

---

*Portions of this paper are drawn from a more comprehensive paper by the author: "What Do We Know About Teacher Effectiveness in the Elementary School Now," Journal of Teacher Education, 1979, 30, 52-64.

**The author would like to acknowledge the support received at the Center for Research in Social Behavior, University of Missouri--Columbia. Professorial time to work on this paper was also partially supported by Grant NIE-G-77-0003 from the National Institute of Education. However, opinions expressed here do not necessarily reflect the position or policy of the National Institute of Education.

Teachers Make a Difference

It is instructive to note that the 1970's began in an era of general pessimism. Popular books (e.g., Crisis in the Classroom, Silberman, 1970) and scientific data (Jencks, et al., 1973, reanalysis of the Coleman, et al., 1966 data) highlighted the apparent inability of schools to instruct students or to make a difference in post schooling career activities. It was popular to claim that schools made little or no difference. Few educators realized the weak design of the Coleman study (Good, Biddle & Brophy, 1975) or the possibility that schools were making an important but comparable impact on student learning (Hurn, 1978).

Now it is clear that teachers do make a difference. Carew and Lightfoot (1979) conducted an insightful, indepth analysis of a few first grade classrooms. Their work dramatically illustrated that, although first grade students may attend the same school, their experience varies widely from room to room. Such potential differences in teacher influence were masked in early attempts to study school effectiveness because teacher effects were averaged and represented in a school or school system score. Data from individual teachers and variations within schools were not examined or reported in the early studies. Data from the International Education Study were recently reanalyzed at a teacher level (in contrast to earlier analyses aggregated at the school level) and the new analysis demonstrated that individual teachers made important contributions to student achievement (Rakow, Airasian & Madaus, 1978). Several studies have now shown it possible to identify teachers who produce more achievement gains than do other teachers (e.g., Berliner & Tikunoff, 1976; Brophy & Evertson, 1974; Stallings & Kaskowitz, 1974; McDonald & Elias, 1976; Good & Grouws, 1975). Simply put, it is now clear that some teachers--teaching similar students--promote more learning (as measured by standardized achievement tests) than do other teachers.

Unfortunately, measures of teacher effectiveness used in recent studies (i.e., residual gains on standardized tests) do not exhibit high stability across consecutive years. The reasons for the low stability are unknown. However, it does appear to be the case that teachers low in a distribution in a given year are apt to be low the following year. Comparatively more of the instability appears to be due to the shifting of those teachers relatively high and those in the middle of the distribution. Thus, it seems reasonable to infer that there is a minimal level of teacher ability (e.g., verbal facility) and/or teaching skill (e.g., managerial ability) that is necessary for effective teaching. The relative effectiveness of teachers with minimal skills in a given year may then depend upon subtle context variables (Good & Beckerman, 1978) or on circumstances in the personal lives of teachers that alter the amount of time that they can spend on instructional preparation.

Still, research evidence demonstrates that there are some teachers who are consistently highly effective (over consecutive years) and that it is possible to identify how these teachers instruct differently than do less effective teachers (e.g., Good & Grouws, 1975, 1977). Furthermore, it is possible to train other teachers to behave in somewhat similar ways and to improve student achievement (e.g., Good & Grouws, 1979; Ebmeier & Good, 1979). I shall return to this point later.

Differential Effects of Teaching

It has been empirically demonstrated that individual teachers make a difference when competing "explanation" for student gains are held constant (e.g., curriculum materials, student characteristics). It also appears to be the case that the teaching context may limit the degree of effect that an individual teacher can have.

The impact of teachers on student learning appears to depend to some extent on the subject being taught, and the age and socioeconomic status of students (see, for example, McDonald & Elias, 1976). Coleman (1975) presents data illustrating that schooling appears to be more important to students' performance in subjects (e.g., mathematics) that are less associated with verbal skills in comparison to language related subjects which parents may teach or stimulate in the home. Data consistent with this conclusion were also recently reached in a large study of junior high school classrooms. In comparison to English classrooms, relatively large teacher differences were found in mathematics (Evertson, Anderson, & Brophy, 1978).

The size of teacher effects has been estimated at different levels. Inman (1977), in a large study of student achievement in kindergarten and third grade classrooms, found that teaching variables accounted for twice as much of the adjusted variance (26 percent) in the performance of students from minority homes as it did for students from majority homes (12 percent). Others have produced considerably lower and higher estimates. Gage (1978) has argued that it would be important to analyze the cumulative impact of teachers over consecutive years. It is intriguing to speculate about the effects of instruction on students who are placed with relatively effective teachers over two consecutive years. (Does teacher effect increase? If this placement happens in the first and second grade, are children developed to the point that they are immune to the effects of a relatively poor third grade teacher?). Teacher effects may be additive.

Hopefully, data in subsequent years will move the question from a speculative base to conceptual and empirical grounds. Even without additional research, it is known that teachers in the elementary school years and teachers in some subject areas in the secondary school years can and do make an important difference in student learning.

Although the focus of this paper is on teachers, I do not want to leave the reader with the erroneous impression that research aggregating data at the school level is pointless. Barr and Dreeban (1977) review studies to illustrate that this work can be productively pursued. Brookover, et al., (1978) provides data to illustrate that individual schools can and do have disproportionate effects on student achievement. At present, most research appears to suggest that teacher effects are easier to find than school effects and that, when school effects are found, they are apt to be mediated by teachers. However, some arguments for the impact of system wide influence on classroom behavior appear plausible (Hall & Hall, 1978).* Hence, research on school and system effects are important areas for subsequent study.

In conclusion, data collected in the past few years have fully demonstrated that teachers have differential effects on student learning. In part, this is because teachers behave differently and because they have differential expectations for their performance and that of their students. What, then, are the ways in which teachers have been found to make a difference in student learning?

Classroom Management

As noted previously (Good, 1979), teachers' managerial abilities have been found to relate positively to student achievement in every process-product study conducted. In fact, the effect of management skills are so pronounced in such research that Brophy** has argued for the necessity of studying teachers who possess managerial skills if we are to learn about other instructional techniques that make a difference. The importance of management is easy to conceptualize. As Phil Jackson has noted in his book, Life in Classrooms (1968), the demands of the classroom are constant and pervasive and the managerial abilities of children, especially the primary grades, are relatively undeveloped. Hence, the teacher who can structure, maintain, and monitor learning activities has a decided advantage in teaching basic skills over teachers who, whether due to a lack of managerial skill or because of their personal philosophies, assign managerial supervision to young children.

---

*Personal communication based upon research in progress. Grant No. NIE-G-78-00-42, Conditions and Processes of Problem Identification, Definitions, and Resolution in Two School Systems: Toward a Grounded Theory, 1978, Peter and Dee Hall.

**Personal communication.

Empirical support to illustrate the importance of managerial skills can be found in Stallings and Hentzell (1978). In reviewing the detailed and systematic research on followthrough classrooms, they found that how teachers manage classes is fundamentally related to students' progress in the acquisition of basic skills. Similarly, it has been found that the effects of management skills are so immediate and constant that it is possible to predict levels of student attention and involvement later in the year on the basis of the level of managerial skills that teachers exhibited in the first few days of school (Anderson & Evertson, 1978; Evertson & Anderson, 1978).

It is beyond the scope of this paper to describe the practical managerial techniques that characterize successful elementary school teachers. Two excellent research sources are provided by Kounin (1970) and Anderson, Evertson, and Brophy (1979) and a comprehensive discussion of management for classroom teachers is provided in Looking in Classrooms (Good & Brophy, 1978). In summary, there is much evidence to suggest that managerial skills of teachers are important determinants of student learning. Given that management skill is important, what else can be said about the classroom behavior of effective elementary school teachers?

Process-Product Studies

In the past few years, several large scale studies of teaching processes have occurred. Collectively, these studies were an attempt to observe relatively effective and ineffective teachers in a sustained and comprehensive fashion. Space limitations dictate that the discussion of this research be limited to one illustrative study.

To study teacher effects, Good and Grouws (1975) chose a school district where all elementary schools used a common mathematics textbook and one in which the student population was relatively homogeneous across schools. These characteristics were useful because the purpose of the study was to make inferences about desirable teacher behavior. By controlling for differences in curriculum materials and student home backgrounds, it would be possible to argue with greater confidence that any observed differences in student achievement were due to teachers and not to context or curriculum effects.

The second step was to identify a group of teachers who were consistent and relatively effective or ineffective in obtaining student achievement results. To estimate teachers' effectiveness, residual gain scores were computed for their students using their pre- and post-scores on a standardized achievement test (the student's pre-test score was used as a covariate in a linear model).

It was deemed important to select an observational sample of teachers who were consistent over consecutive years in their impact upon student achievement, and who were also notably different in their impact. That is, teachers were selected for observation who regularly obtained more achievement from students that did other teachers who taught similar students under similar circumstances. Teachers who consistently obtained much less achievement were also selected.

After observing target teachers repeatedly, a behavioral profile was constructed for the relatively effective and ineffective teachers. Encouragingly, there emerged a set of factors that separated the more and less effective teachers with reasonable consistency (Good & Grouws, 1977).

Interestingly, those factors that separated ineffective and relatively effective teachers in our sample were conceptually similar to those produced by the naturalistic process-product findings of others (Brophy & Evertson, 1974; Berliner & Tikunoff, 1976; Stallings & Kaskowitz, 1974; and McDonald & Elias, 1976). This pattern of findings has been called direct instruction (Rosenshine, in press), and elsewhere the limitations and advantages of the concept have been discussed in detail (Good, 1979).

Like most terms and concepts in education and the social sciences generally, direct instruction means many different things to different individuals. Rosenshine has suggested that among the critical aspects of direct instruction are included some of the following teaching acts: (1) teachers place a clear focus on academic goals; (2) teachers make an effort to promote extensive content coverage and high levels of student involvement in classroom tasks; (3) teachers select instructional goals and materials and actively monitor student progress toward those goals; (4) teachers structure learning activities and feedback is immediate and academically oriented; (5) teachers create an environment that is task oriented but relaxed.

Direct Instruction as Concept

When I use the term direct instruction, the image I have is active teaching. By active teaching, it is suggested that the teacher sets and articulated the learning goals, actively assesses student progress toward those goals, and frequently makes presentations to the class that illustrate how to do assigned work. As Powell (1978) has noted, direct instruction should not be viewed as a set of prescriptive rules. It should be seen as a conceptual orientation that values active teaching, expository learning, focused learning, and accountability. The data produced by Brophy and Evertson (1976) and Soar and Soar (1978) illustrate that the degree of teaching structure needs to vary with the cognitive and social maturity of the students being instructed. Hence, direct instruction is an instructional concept that has to be adjusted by classroom teachers. It has no exact prescription.

That direct instruction is associated with increased learning gains is a common, almost universal conclusion of recent naturalistic (correlational) research. However, to accompany the naturalistic studies, there are three recently completed field experiments. These studies illustrate that teachers can be taught direct instructional principles in relatively simple training programs that lead to changes in teachers' classroom behavior and student achievement (Anderson, Evertson & Brophy, 1979; Crawford & Stallings, 1978; and Good & Grouws, 1979).

Field Study: An Example

On the basis of our earlier naturalistic findings, the process-product research of others, experimental research in mathematics, and general observational work in classrooms, we constructed a direct instruction model for mathematics instruction (see Good, Grouws, Beckerman, Ebmeier, Flatt & Schneeberger, 1977, for a program description). In testing this program, we made an effort to build in a strong Hawthorne condition. Given that control teachers knew that the research was designed to improve student achievement, that the school district was interested in the research, and that they were being observed, we feel reasonably confident that a strong Hawthorne control was created. To the extent that a strong Hawthorne condition was created, it could be argued that differences in performance between control and treatment groups was due to the program; not to motivational variables.

Despite the fact that the experimental students started the year with significantly lower achievement scores than control students, there was a large and significant difference in favor of the experimental group at the end of the two and one-half month project. Importantly, data collected three months after the project had ended (regular end of year testing data by the school district) indicated that the experimental students had maintained their gains. These gains were made in fourth grade classrooms that, for the most part, were located in urban, low income schools. The experimental finding is important given the sense of futility that many educators hold toward achievement in inner city schools.

Although the experimental group showed much more growth, the study also had positive effects on control teachers. That control teachers and their students showed marked improvement is probably due to the strong Hawthorne effect that was purposefully built into the project. Such motivation probably led control teachers to think more about their mathematical instruction and sucy proactive behavior (e.g., more planning) may have brought about increased achievement (more on this finding later).

Commonalities in the Field Experiments

This study, in combination with the two other field experiments completed elsewhere, illustrate that well designed naturalistic studies can yield coherent and replicable findings, and that treatment studies based on them are capable of yielding improvements in student learning which are practically and statistically significant. However, it is important to note that the gains are general but not universal: some teachers didn't implement the program well or have much effect on students (Ebmeier & Good, 1979).

There are two common elements present in all three instructional programs that seem worthy of comment. First, the programs are translated into behavioral recommendations for teachers. It was found in all three studies that specific requests were more frequently acted upon by teachers than were general guidelines.

These findings support Doyle and Ponder's (1976) observation that teachers are most apt to act upon advice when it is specific, when it does not conflict with a teacher's role definition, and when it is not necessary for the teacher to expend much additional time or energy. To this list I would also add the condition of district-level administrative support. The active involvement of district administrators, including building principals, seemed to have a very positive influence upon teachers' motivation in our particular field experiment. However, other variables also probably influence implementation; research along the line that Gene Hall and colleagues at the Texas Research and Development Center have been conducting (Hall, 1974; Loucks & Hall, 1977) would be a useful addition to subsequent field experiments by attempting to uncover additional factors that inhibit or enhance field implementation efforts.

A second consideration is that all three experiments presented teacher treatments that were considerably broader than the one or two variable treatments (lecture less, praise more) that characterize many previous efforts at intervention. Barr and Dreeban (1977) have appropriately questioned the payoff of studying variables that are only a small part of one instructional activity (e.g., teacher use of student ideas during lecture) with the expectation that adjustments could have much influence on end of year achievement scores.

A third and related aspect of the experiments was that they all had ecological validity. That is, the models are largely derived from what effective teachers were doing as they operated with all of the constraints of real world teaching. For example, the mathematics teaching model that Doug Grouws and I developed at the University of Missouri (Good, et al., 1977) deals with all aspects of the lesson from the initial development of ideas in the context of meaning to homework assignments. Although some of our individual process correlations with residual gain are large (assignments and checking of homework), we do not feel that the assignment of homework per se is good or that the presence of any individual measure is sufficient to enhance learning. Homework appears to work in our model because it fulfills its role of providing an opportunity for brief, successful, distributed practice. If students are not prepared for homework assignments, efforts at completion are apt to be unpleasant experiences and a detriment to the learning situation. One profitable trend in the past few years has been the willingness of investigators to consider broader definitions of teaching (Tisher, 1978) and to move away from single variable prescriptions.

Teacher Expectations

Earlier it was mentioned that control teachers in the mathematics field experiment made positive (better than expected) gains. One possible explanation for this is that increased motivation (knowledge that previous observation had shown that teachers could make a difference) led to increased teaching effort. Perhaps some teachers have a low sense of personal efficacy which prevents a sustained teaching effort. After all, why should teachers make careful, systematia attempts to teach if they believe that teachers can't make much difference (a belief they may have developed in a teacher training program)?

Brophy and Evertson (1976) studied the effects of teacher expectations on student achievement by studying teachers who had consistently outperformed other teachers working with similar students under similar circumstances. They administered a complex set of interveiw and written questions to assess these teachers' beliefs and expectations about a variety of teaching issues. They found that the only belief that consistently separated high and low effective teachers was the extent to which teachers believed that they could make an important contribution to students' mastery of academic material. Simply put, teachers who were obtaining good student performance were teachers who had a high sense of personal efficacy. That is, they felt they could teach effectively.

McDonald and Elias (1976), in their work in second and fifth grade classrooms, noted that, in some instances, high teacher expectations appeared to increase the achievement of the average student as much as one standard deviation when compared to similar students for whom teachers held low expectations. There is much correlational research to support the notion that teacher expectations in many instances sustain low achievement and that in some cases may even cause it.

The evidence for teacher expectations is not as impressive or as consistent as that for classroom management and direct instruction. Still, the occurrence of self-defeating teacher behavior toward low achieving students has been documented in sufficient instances that it appears important to sensitize teachers to the concept of self-fulfilling prophecies and empirical instances of how low expectations might be communicated in the classroom. (For more detailed discussion, see Brophy & Good, 1974; Braun, 1976; Good & Brophy, 1977, 1978; West & Anderson, 1976).

Content for Teacher Education

Several agenda items for teacher education programs flow from recent process-product studies and other classroom research involving observation. Classroom management, direct instructional principles, and information about teacher expectation effects would appear to be sensible parts of teacher education programs. Teaching candidates need to read (and to see) some of the positive possibilities of schooling, as well as information that conveys some of the failures and disappointments of schooling. Too often, training programs depict learning situations as mindlessly simple or as hopelessly complex. The balanced conclusion that teachers can make a difference in some areas but that it takes hard, sustained work (and, still there will be some students who cannot be motivated) is a view that seems a more reasonable posture for teacher education programs.

Space limitation prohibits a discussion of specific ways in which such ideas might be built into teacher education programs. However, before moving to another topic, I should note that classroom observational research has yielded numerous concepts in the past few years (wait time, sustaining behavior, pace, interruptions, withitness, on-stage/off-stage) that have rich potential for inclusion in training programs (Good & Brophy, 1978). Although one cannot specify precisely how these concepts relate to student achievement, generally they can help to make the teacher more aware of his or her behavior as it unfolds during classroom events.

Research has also demonstrated that teachers can benefit from the opportunity to observe other teachers who are teaching similar students under similar circumstances and/or to be observed by fellow teachers (Martin, 1973). The possibility for meaningful peer feedback has been enhanced by the availability of concepts (wait time, clarity, sustaining behavior) produced in earlier research. Emerging resources (e.g., teacher centers) can be used to more profitably utilize observational techniques and peer feedback.

The potential for rich collaboration between practitioner and researcher in designing classroom improvement efforts is exhibited in the work of Good and Brophy (1974). Again, the availability of concepts and tools derived from research have provided a focus for productive and joint planning between teachers and researchers. Research work in progress at the Far West Laboratory (Tikunoff*), is presently trying to further enhance the teacher's responsibility in collaborative efforts. Continued research on the efficacy of teacher-researcher collaboration seems to be a useful direction.

---

*Personal communication. See also Tikunoff, W., Ward, B., & Griffin, G. Interactive Research and Development in Teaching: Executive Summary. San Francisco: Far West Laboratory for Educational Research and Development (Report IR&DT-79-12).

Although this paper has focused upon documenting the fact that classroom research has been applied systematically and successfully to improve student learning, I suspect that the most important contribution of educational research has been the production of concepts for the classroom teacher that can be examined, interpreted, and applied in the context of his or her particular setting. Colin Power and I have argued that generalizations about teaching that stem from research act only as guides for assessing the likely consequences of alternative strategies in complex educational situations (Good & Power, 1976). In short, classroom research (when appropriately conducted) can yield concepts which can help teachers to consider the range of hypotheses developed and to make the classroom teacher more aware of the possible consequences of his or her actions.

Although I respect the interest that some of my colleagues have in securing more predictable relationships between classroom process and products, I suspect that the real value of classroom research is in the identification of concepts. Teachers, given the complexity of classroom phenomenon, will necessarily have to interpret the form of potential applications in light of local conditions, distinct educational values, etc. Others have also concluded that prescriptions and advice in education are apt to be indeterminant. For example, Shulman (1978) concludes that "teaching solutions" under the best of circumstances still have a confidence interval around them. Unfortunately, too many educators ignore the indeterminate nature of their advice and argue for simple, unthinking application. Advocacy and commitment to simple concepts has been a thorn in the side of educators and researchers alike (Dunkin & Biddle, 1974).

This does not mean that concepts are of equal value. Some concepts subsume many more "pieces of behavior" than do other concepts. Some concepts (e.g., wait time or clarity) appear to have a wide range of potential application;

other concepts seem to be restricted to highly specific settings. Some concepts are very high inference and call for considerable interpretation when application is made; other concepts suggest rather specific forms of application. A concept like direct instruction seems to be valuable because of its ecological validity, application value to different subject areas, and because it suggests reasonably specific forms of teaching behavior.

Although I have expressed interest in the direct instructional models for achieving growth in basic skills in mathematics and reading, I have questioned its relevancy for other subject areas (e.g., social studies) and do not feel that it is the preferred general instructional model (Good, in press). Given the constraints that teachers face in traditional forms of schooling, the model seems to be effective in producing gains in standardized tests in some subjects in certain grades.

Subsequent Research Steps

Given the potential application base of direct instruction and the decline of basic skills (in at least some American schools), I think it is sensible to continue experimentation with the variable to determine when diminishing returns occur (e.g., can it be applied to secondary mathematics and science classrooms, does direct instruction interfere with transfer, is it limited only to basic skill acquisition or can it be applied to other cognitive areas as well, such as mathematics problem solving).

Although some would argue that the process-product paradigm has out-lived its usefulness, I think it can be utilized advantageously in secondary settings and can be used to provide information about educational outcomes other than basic skill acquisition. The major obstacle is that no compelling dependent measures are available.

It was because of the availability of standardized tests (with all their frailities) that some insight into basic skill mastery has been achieved. The quality of existing affective measures is generally low and much development work is needed. Although I suspect that process information about affective outcomes (e.g., how teachers can enhance students' receptivity to and use of peer feedback; enhance students' creativity, etc.) will be specific to student age and subject matter area, efforts to measure affective school outcomes is important. From my viewpoint, gains are more apt to be made with behavioral measures of affect than with pen and paper measures. However, behavioral measures are expensive to develop and funding agencies have expressed little but minimal interest for investing in this area; no paradigm is likely to prove very useful in the affective domain until new dependent measures are developed.

Little is known about classroom learning. Most of what is known about learning in classrooms has occurred in the past few years--an era characterized by the movement of educational research into the classroom. However, the stage was set for productive work by a previous history of laboratory research on individual learning and earlier attempts to devise instruments for classroom observation. I suspect that the next era of classroom research will be characterized by research that is more fully involved in the classroom. Research has largely been concerned about the "objective" behavior that occurs in classrooms. Subsequent research will focus more on what classroom actors (both students and teachers) think about the behavior that does take place, as well as their thoughts about why certain behaviors do not occur.

Attempts to study the "mental life" of teachers is now underway in many settings. I'm convinced of two eventualities. First, it will be several years before researchers learn how to study the mental life of teachers. Secondly, eventually the research will produce useful concepts. We need to know how teachers perceive constraints, goals, student potential, etc., and the influence that teaching norms, beliefs, and preferences have on behavior. There is much research in the social psychological literature to illustrate that the linkage between beliefs and behavior are very complex. It is now time to integrate research on teacher thinking with classroom observation.

Similarly, we need to know more about how students see the classroom world. What do students expect the teacher to do in a general sense? How do students feel when they cannot answer a teacher's questions? Why does the teacher ask questions in the classroom? Students who feel that the reason is to provide students a chance to talk and/or to allow the teacher to fill time may respond with different levels of attention and effort than the student who feels that he or she is being judged. Do some students view seatwork and homework assignments as filler time; whereas tests and public recitation are viewed as the real tasks? If so, these students may respond differently to teacher seatwork messages than do students who feel that all teacher messages and classroom tasks are important.

There have been some attempts to clarify students' perceptions of classroom events but very little is known presently It would seem that such information would be very useful in attempting to understand school learning. Needed also is information about the overlap of teacher and student expectations and interests. Some research in progress is attempting to study this integration in one operational setting.*

Unfortunately, the call for more attention to the perceptual world of teachers and students has been filled largely with polemics and but little substantive direction.

---

*Evans and Byers at the Institute for Research on Teaching, Michigan State University, are presently studying the overlap between teachers' and students' perceptions of reading books.

I find such ideas intriguing but we need to clarify the types of information that can be obtained, what particular questions and strategies are apt to be most profitable, and the specific way in which such knowledge can be used. The next generation of research will explore and eventually clarify ways in which teachers and students (to some extent) can become determinants and co-participants (as well as subjects) in the research process. However, such information is unlikely to be of value unless simultaneous attention is paid to the overt behavior of the classroom.

References

Anderson, L., & Evertson, C. Classroom organization at the beginning of school: Two case studies. Austin: Research and Development Center for Teacher Education, The University of Texas, 1978.

Anderson, L., Evertson, C., & Brophy, J. An experimental study of effective teaching in first-grade reading groups. Elementary School Journal, 1979, 79, 193-223.

Barr, R., & Dreeban, R. Instruction in classrooms. In L. Shulman (Ed.), Review of research in education No. 5. Itasca, Ill.: F. E. Peacock Publishers, 1977.

Berliner, D., & Tikunoff, W. The California beginning teacher evaluation study: Overview of the ethnographic study. Journal of Teacher Education, 1976, 27, 24-30.

Brookover, W., Schweitzer, J., Schneider, J., Beachy, C., Flood, P., & Wisebaker, J. Elementary school social climate and school achievement, American Educational Research Journal, 1978, 15, 301-318.

Brophy, J., & Evertson, C. Learning from teaching: A developmental perspective. Boston: Allyn & Bacon, 1976.

Brophy, J., & Evertson, C. Process-product correlations in the Texas teacher effectiveness study: Final report. Austin: Research and Development Center for Teacher Education, The University of Texas, 1974.

Brophy, J., & Good, T. Teacher-student relationships: Causes and consequences. New York: Holt, Rinehart & Winston, 1974.

Brown, C. Teacher expectation: Socio-psychological dynamics. Review of Educational Research, 1976, 46, 185-213.

Carew, J., & Lightfoot, S. Beyond bias. Harvard Educational Press Review, 1979, in press.

Coleman, J. Methods and results in the IEA studies of effects of school on learning. Review of Educational Research, 1975, 45, 355-386.

Coleman, J., Campbell, E., Hobson, C., McPortland, J., Mood, A., Weinfeld, F., & York, R. Equality of educational opportunity. Washington, D.C.: Superintendent of Documents, U.S. Government Printing Office, 1966.

Crawford, J., & Stallings, J. Experimental effects of inservice teacher training derived from process-product correlations in the primary grades. Unpublished paper, Center for Education Research at Stanford, Stanford University, 1978.

Doyle, W., & Ponder, M. The practicality ethic in teacher decision making. Paper read at the Milwaukee Curriculum Theory Conference, Milwaukee, Wisconsin, November 1976.

Dunkin, M., & Biddle, B. The study of teaching. New York: Holt, Rinehart & Winston, 1974.

Ebmeier, H., & Good, T. An investigation of the interactive effects among student types, teacher types, and instruction types on the mathematics achievement of fourth grade students. American Educational Research Journal, 1979, 16, 1-16.

Evertson, C., Anderson, L., & Brophy, J. Texas junior high school study: Final report of process-outcome relationships, Vol. I. Austin: Research and Development Center for Teacher Education, The University of Texas, 1978.

Evertson, C., & Anderson, L. The classroom organization study: Interim progress report. Austin: Research and Development Center for Teacher Education, The University of Texas, 1978.

Gage, N. The scientific basis of the art of teaching. New York: Teachers College Press, Columbia University, 1978.

Good, T. Teacher effectiveness in the elementary school: What we know about it now. Journal of Teacher Education, (in press).

Good, T., & Beckerman, T. The effect of classroom context on student achievement. Technical Report No. 145. Columbia, Mo.: Center for Research in Social Behavior, 1978.

Good, T., Biddle, B., & Brophy, J. Teachers make a difference. New York: Holt, Rinehart & Winston, 1975.

Good, T., & Brophy, J. Changing teacher and student behavior: An empirical investigation. Journal of Educational Psychology, 1974, 66, 390-405.

Good, T., & Brophy, J. Educational psychology: A realistic approach. New York: Holt, Rinehart & Winston, 1977.

Good, T., & Brophy, J. Looking in classrooms (2nd ed.). New York: Harper & Row, 1978.

Good, T., & Grouws, D. The Missouri mathematics effectiveness project: An experimental study in fourth grade classrooms. Journal of Educational Psychology, 1979, 71, 355-362.

Good, T., & Grouws, D. Teaching effects: A process-product study in fourth grade mathematics classrooms. Journal of Teacher Education, 1977, 28, 49-54.

Good, T., & Grouws, D. Process-product relationships in fourth grade mathematics classrooms. Final Report of National Institute of Education Grant (NE-G-00-3-0123). Columbia: University of Missouri, 1975.

Good, T., Grouws, D., Beckerman, T., Ebmeier, H., Flatt, L., & Schneeberger, S. Teaching manual: Missouri mathematics effectiveness project. Technical Report No. 132. Columbia, Mo.: Center for Research in Social Behavior, University of Missouri, 1977.

Good, T., & Power, C. Designing successful classroom environment for different types of students. Journal of Curriculum Studies, 1976, 8, 1-16.

Hall, G. E. The concerns-based adoption model: A developmental conceptualization of the adoption process within educational institutions. Austin: Research and Development Center for Teacher Education, The University of Texas, 1974.

Hunn, C. The limits and possibilities of schooling. Boston: Allyn & Bacon, Inc., 1978.

Inman, W. Classroom practices and basic skills: Kindergarten and third grade. Division of Research, North Carolina State Department of Public Instruction, 1977.

Jackson, P. Life in classrooms. New York: Holt, Rinehart & Winston, 1968.

Jencks. C., Smith, M., Cohen, D., Acland, H., Bane, M., Gintis, H., Heyns, B., & Michelson, S. Inequality: A reassessment of the effect of family and schooling in America. New York: Harper & Row, 1973.

Kounin, J. Discipline and group management in classrooms. New York: Holt, Rinehart & Winston, 1970.

Loucks, S. F., & Hall, G. E. Assessing and facilitating the implementation of innovations: A new approach. Educational Technology, February 1977, 12-21.

Martin, M. Equal opportunity in the classroom, ESEA, Title III session, a report. Los Angeles: County Superintendent of Schools, Division of Compensatory and Intergroup Programs, 1973.

McDonald, F., & Elias, P. The effects of teacher performance on pupil learning. Beginning teacher evaluation study: Phase II, final report, Vol. I. Princeton, N.J.: Educational Testing Service, 1976.

Powell, M. Educational implications of current research on teaching. The Educational Forum, 1978, 43, 27-38.

Rakow, E., Airasian, P., & Madaus, G. Assessing school and program effectiveness: Estimating teacher level effects. Journal of Educational Measurement, 1978, 15, 15-21.

Rosenshine, B. Content, time, and direct instruction. In P. Peterson & H. Walberg (Eds.), Research on teaching: Concepts, findings and implications. Berkeley: McCutchan Publishing Corp. (in press).

Shulman, L. Investigations of mathematics teaching: A perspective and critique. East Lansing: Institute for Research on Teaching, Michigan State University, 1978 (mimeo).

Silberman, C. Crisis in the classroom. New York: Random House, 1970.

Soar, R., & Soar, R. Setting variables, classroom interaction, and multiple outcomes. Final report for National Institute of Education, Project No. 6-0432, University of Florida, 1978.

Stallings, J., & Hentzel, S. Effective teaching and learning in urban schools. Paper presented at the National Conference on Urban Education, St. Louis, Missouri, July 1978.

Stallings, J., & Kaskowitz, D. Follow through classroom observation evaluation, 1972-73. Menlo Park, Calif.: Stanford Research Institute, 1974. Office of Education Contract OEC-0-8522480-4633 (100), 1974.

Tisher, R. P. An alternate conceptualization of teaching with some consequences for research. Technical Report No. 134. Columbia: Center for Research in Social Behavior, University of Missouri, 1978.

West, C., & Anderson, T. The question of preponderant causation in teacher expectancy research. Review of Educational Research, 1976, 46, 185-213.

SELECTING CONTENT FOR INSERVICE EDUCATION PROGRAMS

Harold Pratt
Jefferson County Public Schools
Lakewood, Colorado

Introduction

As teachers become more experienced on the job they tend to become more diverse in their attitudes, values and experience. This diversity makes the selection of content for inservice programs a difficult task. In addition, most teachers soon become concerned with the socialization of their students. This goal often creates a gap between needs of the classroom teacher and the inservice instructor's perception of what those needs should be. A concerns model has been used to close this gap and help both groups meet their desired goals.

The Diversity of Inservice Participants

The teacher clients who come to an inservice education program are a very diverse audience. This diversity is due, in part, to differences in their academic preparation, experiences, moods, value structures, cognitive levels, and learning styles.

The content preparation of teachers in the subject area for which they are responsible varies considerably. Nationally, the problem of teachers teaching in an area with little content preparation appears to be a very serious one. In 1963, Mills' data indicated that 60 percent of teachers working in buildings with less than 1000 pupils had little chance to specialize. Thirty percent of all science and mathematics classes in these schools were taught by teachers who spent some or most of their teaching day in other subjects. In 1972, the NEA Research Division reported that one teacher in seven was seriously enough misassigned to be teaching at least one-half time outside the major certification field (Graybeal, 1974). Although the problem may be more serious in smaller schools, data collected in 1977 showed that 18 percent of the junior high school science teachers in Jefferson County Public Schools were teaching at least one section of a course in which they had less than 18 semester hours or preparation. Recent information collected by the Research Triangle Institute (Weiss, 1978) indicate that 16 percent of the elementary teachers do not feel qualified to teach science. Although this percentage may appear to be reasonably low, the next highest rating was only 6 percent--teachers who do not feel qualified to teach social studies. The figure of 16 percent compares even more dramatically to the 4 percent who do not feel qualified in mathematics and 3 percent in reading. At the secondary level, 13 percent of junior high school teachers and 13 percent of senior high teachers did not feel adequately prepared to teach science. For social studies, 9 percent of the junior high teachers and 16 percent of the senior high teachers felt unprepared.

Many teachers come to inservice classes feeling confident and reassured about what they are teaching and the manner in which they are teaching. These teachers often appear to feel as though what they are doing cannot and should not be changed and improved. On the other extreme, there are brand new teachers who come into the profession with only modest training, or teachers who have been transferred to a new assignment, grade level, or type of school (open space, team teaching, IGE, etc.). These teachers often come to inservice classes seeking answers to the problems they are facing in their new position.

Some of them come with a "show me" attitude which can be translated into "you must prove it to me (a classroom teacher) before I will accept what you (a professor) say." Another very prevalent attitude in inservice courses, both district offered and university offered, is that no homework should be expected. This position is often difficult for an instructor to combat when the entire class assumes the same posture and makes it clearly known. Other teachers bring with them the eagerness and desire for new approaches, ideas, and content. These teachers seem to view learning in a very positive fashion that says, "learning is a lifelong process." The range of these attitudes is probably most extreme in classes where teachers are required to be present, which is often the case in a district offered inservice course.

The educational values of the teachers in inservice courses appears to be quite varied, although some investigators maintain that the range in values is fairly narrow and usually conforms closely to those of the community (Stake & Easley, 1978).

Stake has pointed out in a recent series of case studies completed for the National Science Foundation (Stake & Easley, 1978) that teachers value socialization at least as much as academic learning. Teachers who subscribe to the socialization goal place a high emphasis on students "learning to learn" from prepared materials. The four socialization goals listed by Stake are: (1) extrinsic motivation, (2) close attention to directions, (3) careful completion of assignments and homework, and (4) frequent testing. He points out that teachers use the academic content as a vehicle to reach socilization goals and often place these goals above academic learning. Teachers who have this value structure have very high concerns and questions about managing the details of a program and fewer concerns about its overreaching goals and purposes.

McKinnon and Renner (1971) have found that 39 to 56 percent of freshman at the college level are not formal thinkers. There is no reason to believe that the population of secondary and elementary teachers is significantly different in this regard from the preservice teacher population. This probably creates some very interesting problems if teachers themselves are not able to grasp the formal concepts so vital to science, mathematics and other disciplines. This inability would make it difficult for teachers to discriminate between formal and concrete concepts so necessary for the teaching to be at an appropriate level for students. This speculation is untested, but I suspect that teachers will not have the ability to fully comprehend Piaget's theories of mental development if they are not formal thinkers themselves. This, in turn, prevents them from fully utilizing the ideas from the theory in their teaching behavior. Is this effect observable and significant?

By observing teachers at an inservice session, it is possible to identify some who are uncomfortable with the inductive approach to learning typically used in a "hands-on" session for elementary science and mathematics classes. These teachers often express a desire for an overview of the lesson so that they can follow it to a final conclusion and know the outcomes from the outset. Other teachers express their discomfort in a stronger fashion, objecting to being treated as students or requesting that inservice leaders simply talk through the lesson. In all such cases, they are expressing a discomfort and dislike for the inductive teaching style. Mary Budd Rowe (1978) has pointed out (using the Briggs-Meyers type indicator) that there are 16 different learning styles. The effect of the differences in teacher learning styles on their acceptance of inservice classes is worth investigating.

Although many of these same differences exist at the preservice level, they are not as significant or as overtly displayed by the teachers at that time. The more passive, submissive role taken by the undergraduate student is apparent in the usual preservice courses. However, as time on the job increases, teacher attitudes, values and outlook on education begin to diverge in many ways from those of colleagues and university or district inservice instructors. In addition, an openness and willingness to express and maintain these differences becomes greater and more obvious.

Our experience in Jefferson County leads me to believe that there are at least three major motivations for a teacher to enroll in an inservice course: (1) to facilitate recertification and/or salary increment, (2) to improve professionally as a teacher, or (3) to bring about a change in teaching style, context, or curriculum usage. This first motive is fairly straightforward. Teachers in virtually every state need to be recertified every five or ten years by completing a certain number of credit hours. Similarly, many school districts have a salary schedule like that in Jefferson County whereby teachers are placed on a higher salary step for approximately every 20 hours of college credit above a Bachelors Degree.

For some teachers, the motivation to improve their content knowledge and teaching methods is a strong and driving one. In contrast, a few teachers in inservice courses are there through the strong recommendation or insistence of their principal. They participate as part of a professional growth plan required for teachers identified as marginal in order to maintain their employment.

The third group of teachers are required by the system to attend an inservice class because of a change in the curriculum used or in the context of teaching (a move into team teaching, IGE, ungraded materials, etc.). Although somewhat intrinsically motivated, these teachers usually are not looking for a major overhaul of their teaching methods. They may undertake a course such as individualized instruction or one designed to bring more humanism into their classroom, but, often only in an exploratory sense. The commitment to the change is usually missing. Such an approach to inservice seems to be designed to refresh the status quo, not to promote a real change.

Socialization as a Goal for Teaching

After a year of ethnographic study of science, mathematics, and social studies teaching in eleven sites across the country, Stake concluded that what teachers usually wanted was not a major overhaul of their conceptualizations but a chance to talk with other teachers and collect some "gimmicks" that could be incorporated into their existing schemata (Stake & Easley, 1971). Stake and his colleagues spent considerable effort probing what they considered to be a difference in perception of teaching by practicing teachers and by the subject matter specialists who work with them in inservice education and curriculum development. Their major hypothesis was that subject matter knowledge was not an end in itself as is often assumed and practiced by the academic community. Instead, subject matter knowledge is transformed in a school into a means of meeting the socialization demands of that school. They saw science teachers as influenced by three poles: (1) the ethic of scientific inquiry, (2) the "ideal" science teacher role, and (3) the socialization responsibility. Teachers often felt that they work alone in attempting to achieve the ideal teacher role and in developing their socialization responsibilities. In their personal struggles with the act of teaching they find little help from inservice education courses.

Stake and his staff observed many variations in the style and process of instruction across their eleven study sites. They found variations in amount of individual pacing, use of technology (e.g., cassette tape players, electronic calculators, laboratory equipment, etc.) amount of homework assigned, degree of emphasis of memorization versus skill acquisition for the development of concepts, and even with degree of teacher happiness with the learning results achieved. What was constant was that the conceptual structure for the instruction was provided by instructional materials rather than by the thoughts of teachers or the students. The principle reason for this seemed to be that the teachers' socialization goals, especially that of preparing pupils for success in later schooling, required that pupils learn to learn from materials. This particular socialization goal is further defined by Stake by the following beliefs (State & Easley, 1978, p. 16:21):

> A. Intrinsic motivation of students in some form is essential if students are to pay attention to their school work. Teachers should do what they can do to motivate students but many factors in the personal makeup and home situation of some students make motivation in academic subjects impossible.
>
> B. Attention to directions, to the formulation of questions, and to any presentations by teachers, textbooks, films, or other means essential for academic learning. Teachers must help students keep attending to their tasks.
>
> C. Students will learn more reliably when they are successful in carrying out assignments properly. Good study habits, note taking and homework are important. Teachers should demand that work be handed in regularly.
>
> D. Frequent testing of one kind or another is important to make certain that the students have learned what they are supposed to. If they do poorly on tests they should be encouraged to work harder on their preparation.

Most teachers seem to view the socialization function as their major goal rather than as a means to a more important end of content and concept acquisition. When Stake and Easley (1978) asked the question on a survey, "Please tell how important it is in your school for teachers to insist that youngsters be considerate of others, to show respect to adults, and to follow directions carefully in doing assignments," (pp. 18:65) 29 percent of the junior high principals said it was more important than content and 53 percent considered it equally important. From elementary teachers, 42 percent considered it more important and 42 percent considered it to be equally important.

Socialization seems to take precedent over what else happens in the classroom. It seems to supersede general study skills, which in turn supersede specific operations such as arithmatic skills and chemistry laboratory activities, which in turn preempt the subject matter. Because of the socialization demands, teachers seem to be caught between two systems--the scholarship system and the educational system--but they are much less at the mercy of the scholarship system. Scientists and other academicians have little effect. Parents and other teachers have much more.

The presence of such a gap between the actual goals of practicing classroom teacher and that of the academic community may provide one of the major reasons why curriculum innovations such as the National Science Foundation math, science, and social studies projects have not been widely accepted in the American schools. Our experience in the Jefferson County Schools over the last 15 years with the piloting and implementation of innovative projects at all levels and most recently with the revision of the elementary science program has supported this notion. Over the years, I have experienced and observed the constant, underlying struggle between the socialization goals of teachers and the concern for the acquisition of content by the academicians. These two, apparently divergent agendas, are constantly present in inservice courses, summer institutes, writing sessions and the pilot testing of innovative programs. The two agendas have been well documented by the Biological Sciences Curriculum Study (Glass, 1970) and other curriculum development groups. Because both groups considered the two agendas as polarized, the resolution of the difference was thought to be in some compromise or amalgamation of the two. Our recent work with the Concerns-Based Adoption Model (CBAM) developed by the Research and Development Center for Teacher Education at the University of Texas (Hall, Wallace & Dossett, 1973) has convinced us that the two goals are not at the opposite ends of a continuum but, instead, can be viewed as different stages on a developmental ladder of change.

In CBAM, the concept of "concerns" has been developed to describe the perceptions, feelings, and motivations of teachers as they deal with an innovation. Research studies have verified a set of stages that people appear to move through when they are involved in innovation implementation. These Stages of Concern about the Innovation provide a key diagnostic tool for determining the content and delivery of staff development activities.

These concerns change from initial concerns unrelated to teaching (I'm concerned about getting a ticket to the rock concert next Saturday night), to concerns about self if relation to teaching (I wonder if I can do it), to task concerns about teaching (I'm having to work all night to prepare my lesson plans for tomorrow), to impact concerns (Are the kids learning what they need?). All together, six different levels of concern have been identified.

Research with the concept of Stages of Concern (SoC) has focused on the development of a reliable and valid measurement procedure for assessing user concerns (Hall, Wallace & Dossett, 1973).

An individual does not have concerns only one stage at a time. There is a concerns "profile," with some stages

Stages of Concern About the Innovation

6 REFOCUSING: The focus is on exploration of more universal benefits from the innovation, including the possibility of major changes or replacement with a more powerful alternative. Individual has definite ideas about alternatives to the proposed or existing form of the innovation.

5 COLLABORATION: The focus is on coordination and cooperation with others regarding use of the innovation.

4 CONSEQUENCE: Attention focuses on impact of the innovation on student in his/her immediate sphere of influence. The focus is on relevance of the innovation for students, evaluation of student outcomes, including performance and competencies, and changes needed to increase student outcomes.

3 MANAGEMENT: Attention is focused on the processes and tasks of using the innovation and the best use of information and resources. Issues related to efficiency, organizing, managing, scheduling, and time demands are utmost.

2 PERSONAL: Individual is uncertain about the demands of the innovation, his/her inadequacy to meet those demands, and his/her role with the innovation. This includes analysis of his/her role in relation to the reward structure of the organization, decision making, and consideration of potential conflicts with existing structures or personal commitment. Financial or status implications of the program for self and colleagues may also be reflected.

1 INFORMATIONAL: A general awareness of the innovation and interest in learning more detail about it is indicated. The person seems to be unworried about him/herself in relation to the innovation. He/she is interested in substantive aspects of the innovation in a selfless manner such as general characteristics, effects, and requirements for use.

0 AWARENESS: Little concern about or involvement with the innovation is indicated.

being relatively more intense and other stages being less so. In general, it appears that during implementation of an innovation, stages 0, 1, and 2 concerns (Awareness, Information, and Personal) will initially be most intense. As implementation begins, stage 3 concerns (Management) become more intense, with stages 0, 1, and 2 concerns decreasing in intensity. In time, the concerns of stages 4, 5, and 6 (Consequence, Collaboration, and Refocusing) become the most intense.

The Use of a Concerns-Based Inservice Program

Three years ago, Jefferson County began to plan a very extensive inservice program for approximately 700 teachers in grades 3 through 6 to support the implementation of a revised science curriculum. During the initial trial run of our inservice program, our goal was to provide teachers with an understanding of the value that the new curriculum had for their students. To this end, we presented the content of the curriculum in an inductive way by placing the teachers in a "hands-on" learning role. To our dismay, they flooded us with personal and management stage questions, such as "How many films are provided with each kit?" "Will I have enough equipment for all my students?" "Will it create a lot of mess?" "When do I have to start using this?" "How do we grade our students?" The personal and management/socialization concerns about the new program were preventing the teachers from dealing with content of the inservice.

After this initial round of ineffective inservice, the Concerns-Based Adoption Model was introduced to us and the inservice program then redesigned around the stages of concerns. The Stages of Concerns Questionnaire (SoCQ) was administered to the potential teacher audience and the data were used in planning a more extensive and appropriate inservice for the entire district. Restated, concern stages were carefully considered and utilized in planning the content of a series of inservice activities. For teachers at the awareness stage, principals were asked to involve them in making the decision about date of program implementation. (The decision that the revised curriculum was to be implemented had already been made at the district level.) Flexibility in scheduling was available since the inservice was designed to occur in three phases, i.e., the inservices were planned to take place over a two-year period, involving approximately one-third of the 81 elementary schools in each phase. Principals were inserviced for one-half day in the details and goals of the new program. They, in turn, were asked to provide their staff with information about dates and events that would soon occur related to the inservice program.

Two months after this preliminary awareness activity, more detailed information was provided to teachers in the first implementation phase in a "pre-inservice" session held within each elementary school. This session took place after school during a regular staff meeting. Members of the Science Department distributed guides to each teacher along with printed information concerning the dates and content of upcoming inservice sessions. Teachers were oriented to the general content and organization of the guide and time was provided to answer their questions.

The inservice sessions began approximately two months later. They consisted of three full days of release time and were held at an inservice center. The classes of inservice participants were taught by substitutes provided by the District office. Sessions were scheduled approximately three months apart so that the units covered in each inservice could be used by the classroom teachers with their students during the interim. This allowed management level problems to be identified during the time between sessions and enabled many of these problems to be resolved at the next inservice session. In addition, a heavy emphasis was placed on resolution of management concerns in the first and second inservice sessions. A special module on classroom management using video tapes of teachers in the classroom was provided for this purpose. During the time period between the first and second sessions and after the second session, two members of the Science Department spent a large fraction of their time in what was termed "Comfort and Caring" school visits. During these visits, contact was made with each individual teacher for the purpose of listening to questions and resolving problems on the spot, if possible. These personal contacts with teachers not only resolved many of their personal and management problems, but also identified concerns that could be handled in a more general way at the next session.

Data two years after the first inservice sessions began indicate that by selecting content in the above fashion and scheduling its presentation over a period of several months (almost a year), the informational, personal and management concerns of teachers have been reduced to a tolerable level. At this point impact concerns, those concerns which deal with whether students are learning, have only begun to rise slightly. This raises a question as to what interventions are necessary to raise impact concerns. The underlying hypothesis, of course, is that teachers with impact concerns will produce the greatest learning in students. This hypothesis itself has yet to be investigated.

The apparent success of this inservice plan (designed to resolve teachers' personal and management concerns) suggests very strongly that it will attend to the management type questions inherent in the socialization issue described by Stake. Academicians, on one hand, must recognize the developmental nature of teachers' concerns and deal with the management/socialization ones prior to promoting the issue of impact on students. On the other hand, it appears that some teachers are not aware of, nor do they place high value on, impact concerns. It may be that they are unable to attend to these types of concerns as long as they are dealing with management/socialization issues. Interventions which will help teachers become more aware of and place a higher value on the impact level concerns are needed. What are these interventions? Who is responsible for initiating them? We suspect the school principal plays a key role, but this speculation needs to be studied.

In a recent report, Berliner (1976) describes the important behavior of a successful classroom teacher:

> The classroom behavior of a successful teacher is characterized by direct instruction, whereby students are brought into contact with the curriculum materials and kept in contact with those materials until the requisite knowledge is acquired. At the primary grades, direct instruction includes goal setting; allocation of sufficient time to reach goals; motivating students by appropriate choice of curriculum materials, teaching methods, and teaching behaviors so that active learning time is high; providing an academic focus; and monitoring student activities during the allocated instructional time. The successful teacher asks direct questions and provides positive and negative feedback to students on academic matters. The atmosphere for successful direct instruction is warm, and student behavioral problems are low in frequency.

He seems to be describing an impact level teacher who has solved the problems of management and socialization and moved on to the questions of how students acquire knowledge.

Summary of Questions

Because teachers themselves have individual learning characteristics, the effects of these differences on the teacher's acquisition of knowledge and skills needs to be studied. Are the teacher's own cognitive level, learning style and value structure important factors that affect their learning and teaching styles?

Do impact level teachers produce greater learning in their classes? Are they the ones who use "direct instruction" as described by Berliner? How are impact level concerns aroused? Will they naturally follow when management/socialization concerns are resolved or do teachers require specific interventions to redirect their goals to the next concerns stage? What is the role of the principal in this process?

References

Berliner, D. C., & Rosenshine, B. The acquisition of knowledge in the classroom. Sacramento: California Commission for Teacher Preparation and Licensing, 1976.

Glass, B. The timely and the timeless. New York: Basic Books, 1970.

Graybeal, W. S. (Proj. Dir.). Research on teacher supply and demand in public schools, 1973. Washington, D.C.: National Education Association Research, 1974.

Hall, G. E., Wallace, R. C., Jr., & Dossett, W. A. A developmental conceptualization of the adoption process within educational institutions. Austin: Research and Development Center for Teacher Education, The University of Texas at Austin, 1973.

McKinnon, J. W., & Renner, J. W. Are colleges concerned with intellectual development? American Journal of Physics, 1971, 39, 1047-1052.

Mills, T. J. Secondary school science and mathematics teachers characteristics and service loads. National Association of State Directors of Teacher Education and Certification and the American Association for the Advancement of Science, for the National Science Foundation. Washington, D.C.: National Science Foundation, 1963.

Rowe, M. B. Who chooses science? A profile. The Science Teacher, 1978, 45, 25-30.

Stake, R., & Easley, J. Case studies in science education. Urbana-Champaign: Center for Instructional Research and Curriculum Evaluation, University of Illinois, 1978.

Weiss, I. R. Report of the 1977 national survey of science, mathematics, and social studies education. Triangle Park, N.C.: Center for Educational Research and Evaluation, 1978.

REACTIONS TO THE PANEL ON THE CONTENT OF TEACHER EDUCATION

Kenneth R. Howey
University of Minnesota

One is invariably tempted, even though he be a reactor, to share one's own ideas (this is especially tempting since the topic under consideration here is one in which I have maintained a long-standing interest). However, when the rostrum is graced with such distinguished scholars as B.O. Smith and Thomas Good, the result is a multiplicity of provocative ideas, indeed more than can be easily assimilated. There is no need to add more, and I gladly limit my remarks here in an attempt to capture but some of the wisdom which they have shared with us this morning.

Our first speaker, Dr. Smith, has done a splendid job in assisting us to better understand a complex topic. No finer choice could have been made in selecting someone to initiate these important deliberations. Both his paper and his amplifying remarks underscore the need to better delineate just what the scope and sequence of teacher education currently is and, more importantly, what it should be. Beginning with courses at the baccalaureate level, through the critical 'induction' phase when actual teaching responsibilities are assumed, and into continuing teacher education, much remains to be done. We must better address the question of just what content is most appropriate for what type of teacher at what phase of their career. It is essential that the broad backdrop and perspective provided by the distinguished scholar be maintained in attempting to improve the education of teachers.

Dr. Smith also reminds us that any given teacher assumes multiple roles and thus the content of teacher education must not become preoccupied with only the teaching or instructional role. Planning, classroom management, and evaluation are also critical responsibilities and a consideration of multiple functions is essential in the determination of appropriate content for teacher education programs. For example, there has been but minimal research on the critical relationship between the process of planning, especially of a collaborative nature, and resultant instructional behavior.

Smith also suggests that there is a need for a synthesis of not only generic pedagogical skills but also of pedagogical competence as embedded in distinct disciplines. While time constrains against reacting to many of the provocative ideas set forth in his paper, the following are a few of his more salient observations.

1) Although research on teaching has provided us with multiple insights into what teachers need to know, we know little yet about how teachers might best acquire and apply this knowledge.

2) We must be more precise in defining content which includes, among other things, definitions, facts, law-like principles, rules, values, both theory and ideology, procedural guidelines and knowledge of both 'how to' and 'how do.'

3) We must study intensively various modes of teaching, such as inquiry teaching and group-process.

4) We have but 'nibbled at the edges' with respect to how to facilitate student involvement (at all levels of schooling) with content. He poses a most intriguing question, "Are there difficult learnings just as there are learning difficulies?"

5) Finally, he underscores the need to address the question of what the criteria are for the selection of content and he provides some examples to whet our intellectual appetites.

I would underscore a point he made in the epilogue. He suggests that we appear to suffer from a feebleness of will . . . a loss of nerve in employing what knowledge already exists in shaping more coherent and orderly programs. The organizing framework he has presented in his paper could help us better synthesize what knowledge does exist.

Dr. Good has done an outstanding job of summarizing for us where classroom research has begun to produce important useable knowledge. His own efforts in this direction have been significant. He underscores three basic areas where visible inroads have been made: classroom management, the effects of differential teacher expectations, and direct instructional tactics in the acquisition of 'basic' knowledge and skills. He puts the direct instructional approach in an appropriate perspective when he acknowledges that while it is crucial on the one hand, in a broader sense it is neither the preferred or appropriate instructional mode.

His paper goes beyond 'knowledge of' and addresses one of Dr. Smith's basic concerns of 'knowledge how' when he provides specific guidelines for facilitating effective 'skill acquisition' forms of teacher education.

He also addresses what, in the final analysis, may well be the essence of continuing teacher education. He calls for meaningful peer feedback (which) has been enhanced by the availability of concepts produced in earlier classroom research. He reminds us of how classroom research will best be utilized when he states, "In short, classroom research (when appropriately conducted) can yield concepts which can help teachers to consider the range of hypotheses considered, and to make the teacher more aware of the possible consequences of his or her actions."

Professor Fenstermacher reminds us of a critical reality; in the final analysis the content of teacher education is, to a large degree, 'the content of the teacher's mind.' Assuming some degree of intentionality, if not rationality, he suggests that the intentions of teachers do guide and account for their performance. He further suggests that teachers' intentions are largely formed and shaped by their work experiences, especially during the critical induction phase, and in turn the impact of initial teacher preparation is considerably diminished.

Thus, Fenstermacher eloquently captures what have long been central concerns for those concerned with the education of teachers. How are teachers' intentions (and perceptions) shaped? How are these changed over time? To what extent do they influence the dynamic interactions which occur in the classroom? How is academic rationality achieved or, in the language of the developmental theorists, how can psychological maturity as well as contemporaneous forms of learning be achieved?

Dr. Fenstermacher states that a readiness for induction must be based upon a reasoned and morally defensible view of education. The implications of that statement for the content of initial teacher preparation are significant. He suggests that the novitiate must not only be able to cope with but also control the impact of the school setting during induction. There is no doubt that, historically, initial teacher education has been preoccupied with the psychology of the individual and has paid but minimal attention to the sociology and psychology of the school as an organization and community. His paper underscores the fundamental need to broaden our perspective and establish more solid lines of inquiry into both personal/perceptual and organizational domains. He concludes his paper with a bibliographic essay that is rich in both the breadth and depth of its references and which is reflected in the insights he has shared with us.

Dr. Pratt has brought to us the needed perspective of the scholar-practitioner. He vividly illustrates the inadequacy of content preparation for many teachers. This problem is compounded by the increasing reassignment and, in many cases, misassignment of classroom teachers. He notes that the value orientations of teachers are, in fact, varied and are a matter of paramount importance in planning for their continuing education. Likewise, he underscores the need to consider the (cognitive) developmental level of teachers and the constraints that limited development places on a teacher's ability to internalize more complex inservice goals.

By referring to his efforts in the Jefferson County school, Dr. Pratt also illustrates the utility of the concerns-based approach to assessing teacher needs and, in turn, planning appropriate interventions. I will not elaborate on the concerns-based approach here, as that innovative research and development pioneered by Gene Hall and his colleagues is well known to most of you. There is no doubt in my own mind that the research on the concerns-based adoption model can and should be extended in terms of the interaction of teacher concerns with a variety of other personalogical and organizational variables in better determining the readiness of individual teachers for differentiated forms of teacher education.

I commend Dr. Pratt for his insight in pointing out some of the many personalogical characteristics such as value orientations, preferred teaching/learning styles, developmental stages and phases, and levels of awareness and concern, which might be considered in better differentiating learning experiences for teachers. His paper powerfully illustrates the considerable limitations of a "needs assessment" which is limited to a rank ordering of topics of interest.

In closing, I wish to thank the sponsors of this conference for inviting me to participate in a small way. I am complimented. These distinguished speakers and the other presenters have been most helpful in establishing a productive dialogue. They have been of considerable assistance in helping to set priorities for needed research and development in teacher education.

CONTENT OF TEACHER EDUCATION:
NEXT STEPS ON THE RESEARCH AGENDA

Charles Ruch
Virginia Commonwealth University

The four papers presented in this session vary widely in their views on the content of teacher education and what the next steps on a research agenda might be. I suggest that there are at least three threads common to these papers. First, the "Content Teacher Education" in its definition is a complex problem and one that guides all inquiry. Second, the place where research ought to begin is with the teacher-in-situation, but what teacher in what situation is open to question. Third, the issue of criterion by which decisions about content for a teacher preparation program is selected is preceded by the political question, "Who selects what criterion?" This, too, is worthy of analysis. A few comments about each of these common threads follows.

The issue of content(s) raises a complex definitional problem. All four presenters suggested their own definition of "content" as it relates to the preparation of teachers. However, a variety of definitional dimensions emerged. Like a series of lens held up to examine a view, these dimensions provide a tint and a hue through which a phenomenon might be perceived. There are many such dimensions. Let me mention a few.

First, the dimension of specificity appears in both Smith's and Good's paper. Does one view content as the teaching of a behavior (e.g., high versus low order questions) or as the teaching of a complex activity (e.g., planning)? Second, the dimension of location -- where the content is taught -- is highlighted in the papers of Fenstenmacher and Pratt. One might argue that the same content taught on-campus becomes very different content when taught in a continuing education course offered off-campus. Third, the assumption of a training continuum addresses the dimension of time in career. We routinely suggest that the content necessary for a preservice teacher should be different from that for a 15-year tenured master teacher. Is this necessarily true? One might suspect that the same content presented to those two populations might be processed differently. Finally, the dimension of "ownership" (Smith's 'selection criterion' or Fenstenmacher's 'intentionality') is particularly critical. Who owns the content -- the preservice university professor, the school supervising teacher, the public school master teacher, or the inservice director? What is perceived to be important content to one may be unnecessary or useless to another. No doubt you will think of other definitional dimensions which, when applied, influence one's view of content and what research questions might follow.

An assumption underlying this definitional problem is that teacher preparation, per se, is a continuum from preservice through induction to inservice. This conference, of course, is organized around this assumption. Is it, however, a continuum? Is it a system, implying a differentiation of parts with an interconnectedness among them? Research needs to provide evidence in support of this theoretical construct.

The place to begin is teacher-in-situations but, what teacher? In what situation? All of the presenters suggest that the place where research might best be focused is with the teacher-in-situation. Fenstenmacher speaks quite directly about the "intentions" of the teacher. Smith comments on the "power of the work place." Good reviews the research on teacher effectiveness on the job. Pratt discusses the needs of the practicing teacher. However, there is diversity among schools. There is diversity between preservice and inservice teachers in terms of their goals and expectations in schools. Particularly, there is diversity between two cultures, the culture of higher education and the culture of public education (Sarason, 1971). It may be the difference between these two cultures that challenges the assumption of a continuum of teacher education. The differential impact of these cultures is not well understood, yet they both are felt to be powerful environments.

A tangential question to the issue of place to begin is Smith's admonition that we would be well advised to design the content of teacher programs for teaching "as it is," rather than to train new teachers for "what might be." Pratt argues that inservice should be used to introduce innovations and changes within the schools. The training of teachers with new skills has often been a rationale for changing the schools.

Who decides what selection criterion? The political question of who selects what criterion to be used to select the content for teacher education is fertile ground for analysis. The necessity to clarify this social/political question in advance of developing research action cannot be underestimated. One of the realities of the "overcrowded curriculum" is the increasing number of actors who are participating in the definition of what should be taught in the schools and, by implication, what teachers should learn to teach about. Judges, legislators, citizens panels, in addition to school boards, professional school administrators, teachers, parents, and students are involved in the act. The plurality of values was never greater! the processes for resolving values conflicts never more distant! Can research help in the resolution? Can these value questions be articulated?

I suggest that next steps on the research agenda for the content of teacher education might include:

a. Meta analysis of existing research on the content of teacher education. Both Smith and Good suggest there is a beginning knowledge base. Activities which would put it in a "useful" form for transmission would be welcome.

b. Explanation of questions surrounding what Argyris and Schon (1974) calls, "theories of action versus theories-use." These are very similar to Fenstenmacher's notion of "theories in use" and "stored theories." Strategies for the processing of experience into useful changes in professional behavior are not well understood and logically should form the foundation of clinical experiences.

c. Finally, the issue -- "When do the processes of teacher education become, in fact, the content?" -- is not well understood.

References

Argyris, C. & Schon, D. A. Theory in practice: Increasing professional effectiveness. San Francisco, CA: Jossey-Bass Publishers, 1974.

Sarason, S. B. The culture of the school and the problem of change. Boston, MA: Allyn and Bacon, Inc., 1971.

Process

Overviewer
Kevin Ryan

Discussants
Christine San Jose
Thomas Bettis

Paper Presenters
Betty Dillon-Peterson
Sharon Feiman
Richard Tisher

> This topic area is concerned with alternative delivery systems for teacher education programs along the continuum from preservice to inservice. The area covers the ways and means of teaching teachers that optimize their continuous growth and renewal. Presently, the modes of delivery and the reasons for and effectiveness of various delivery systems are not well understood. What are alternative approaches to the delivery of teacher education? Can research lead to the development of a conceptual framework or typology that outlines the scope, depth, and sequence of interventions? What should the next steps be for research and development in the area of process of teacher education?

In the overview presentation, Kevin Ryan, Associate Dean of Academic Faculty of Educational Foundations and Research at The Ohio State University, was asked to provide a broad picture of the array of variables and issues relevant to the process of teacher education. He was asked to address the variety of ways in which content is delivered to preservice and inservice teachers and whether or not different processes are specifically appropriate/effective for preservice-induction-inservice. What assumptions guide choices of processes; are assumptions different for preservice, induction, and inservice? How results of these inquiries might be applied to teacher education and what questions and issues are raised that might be addressed in future research were to culminate the presentation.

Sharon Feiman, researcher at the Institute for Research on Teaching at Michigan State University, gave a Specialist Presentation. She was asked to focus on the role of teacher centers, teachers' observations of their own teaching, and other techniques that encourage professional reflection and growth. The presentation was to summarize research and other inquiry that has been conducted in these (or other related) areas, and to identify important questions and issues that they raise that could be addressed in future teacher education research.

Dick Tisher, Professor of Education of the Education Faculty, Monash University, Clayton, Australia, was a Specialist Presenter. He was asked to focus on his research and the related research of others in Australia with an emphasis on the induction phase of teacher education. Studies and issues related to induction were thought to be particularly relevant since in the United States the induction period is just beginning to be recognized. He was also asked to develop questions and issues related to the process of teacher education in general that should be the subject of future teacher education research.

The Specialist Presentation of Betty Dillon-Peterson, Director of Staff Development at Lincoln Public Schools, Lincoln, Nebraska, was to focus on what she had learned about process from her experience and recent survey study of the delivery of staff development/inservice teacher education to teachers. She was also asked to address how those learnings could be applied to teacher education and what questions and issues should be addressed in future teacher education research.

Discussant Christine San Jose has a long history of expertise in the area of teacher inservice education. She is the Founding Director of the West Geneseo-Syracuse University Teaching Center, a joint effort between a school district and university to coordinate a preservice-inservice teacher education program. Discussant Tom Bettis, Principal of Springbrook Elementary School in Kent, Washington, is an international leader in the area of inservice teacher education. He works extensively in inservice in the Seattle, Washington, area along the West Coast, teaches in the Teachers College at the University of Washington, and conducts summer inservice seminars for Oxford University in England.

INSIDE THE BLACK BOXES:
THE PROCESS OF TEACHER EDUCATION

Kevin Ryan
The Ohio State University

In recent years, the vocabulary of the teacher educator has borrowed from general systems theory. To call the education of teachers a system is to employ a metaphor: a particular set of words is used to capture the reality of what has gone on under the labels of teacher education and teacher training. The purpose of this paper is to discuss one of the key terms in systems thought, process, and how it relates to the education of teachers. Another purpose is to see what issues and questions can be generated from an examination of process and other systems terms. The major sources for the systems concepts in this paper are, first, Bela Banathy and, second, Desmond Cook. Bela Banathy (1968) defines the system as a collection of interrelated and interacting components that work in integrated fashion to attain predetermined purposes. For example, a bicycle is a mechanical system; a robin is a biological system; and the Republican party is a social system. For Banathy, each system has its purpose or purposes; that is, what it attempts to accomplish. The system's purposes are achieved through the process operations of the system. Normally, there are other components which are the working parts of the system and are subordinate to the process. Normally, the components interact to create the processes designed to achieve the system's purpose.

My colleague, Desmond Cook, the individual most responsible for adapting the PERT system to education, speaks of systems in a way that highlights the process dimension

(1978). He calls a system a processor unit. The process is what changes or transforms the system's input to the output. In the teacher education system, then, it is the process that supposedly transforms the student into a teacher.

One way to get a clearer sense of the teacher education process is to modify slightly Ross Ashby's analog of the system as a black box (1958). For heuristic purposes, Ashby pictures a system as a black box with an input that is clear, with an output that is clear, but whose internal processes are unknown. When we apply this analog to teacher education, modifications need to be made. We know some things about the inputs. We know some things about the outputs, and we know some things about the internal workings of the box. Further, since the purpose of this paper is to look at the entire sweep of teacher education, it may be more useful to think of three black boxes: one for preservice; one for the induction phase (which I would define as the first few years prior to the tenure decision); and the third box, the teacher's inservice training. The focus, then, is on what goes on inside these three black boxes. First, however, let us discuss the purposes.

Purposes

The purpose of a system has direct bearing on a system's process and components. The general purpose of teacher education--that is, all three boxes--is, we presume, to initially train an adequate supply of effective teachers to enter into professional life and to maintain and improve their professional skills. I believe that this or something like it is the unexpressed, but generally agreed upon, purpose of teacher education. The goal of this purpose, to train "effective teachers," is the output of the system. Unfortunately, this specification of the system's output has been a troublesome issue for our field. There has been much hand wringing, breast beating and soul searching over the fact that we do not have an empirically derived definition of the "effective teacher." Much to the discomfort of many in our field, the intended output of our programs and inservice efforts, is a matter of one's value judgment, someone's or group's preferences. While hardly a felicitous condition, teacher educators can take a bit of comfort, since they have a good deal of company among medical educators, law educators, and social work educators.

On the other hand, this inability to determine scientifically what is an effective teacher, and, therefore, have a scientifically satisfying goal for our programs, may be being used as a mask for our own inaction. Many in our field are failing to do the hard work of defining what knowledge, what skills, what strategies, what attitudes and what values we espouse, and, therefore, to what we commit ourselves as the goals of our program. While engaging in such an imprecise practice may bother many, the consequences of not doing that are much worse. Without this clarity of purpose, the system becomes rudderless. Not having an agreed upon aim for the system, the trainers and trainees are free individually to interpret what they are doing and where they are going. When this happens, the process begins to fall apart. The components fail to mesh and the original purposes for coming together in a system dissolve.

However, having a clearly defined purpose and a well articulated goal does not guarantee success. Systems, particularly human systems, evolve other purposes as they grow and develop. Some of these alternative purposes become visible and legitimate. Some are subterranean. Sometimes they affect the system's ability to achieve its stated purpose. For example, a teacher education program in a small liberal arts college may have been designed to develop scholar teachers. Over the years as the college began to face substantial economic problems and enrollment declined, the purposes of teacher education in the institution may have been altered to be a low-cost, high-enrollment unit which will, in effect, financially support a disproportionately large portion of the college's total operation. Or, a regional state university's teacher training program might be used by the central administration to impress the state legislators of the great contribution the university as a whole is making to the welfare of the state. Or, a large state university might experience a shift in purposes over the years so that its true purpose now is to support doctoral candidates who function as teaching assistants and carry the teacher education program largely by themselves. Or, a private research-oriented institution can evolve so that its true purpose for being involved in teacher education is to enable a handful of faculty members to do research and speculate about teacher education.

Similarly, the official purposes of inservice can stray from the official line. It can become a justification for the hiring of so many administrators or a vehicle for the superintendent to assimilate a particular educational change with which he is currently enamored.

There is, too, the purposes of the people--notice I did not say input--in this system. The system expects that the person who has presented himself for training has a set of purposes that is, on the whole, congruent with the purposes on the assumption that the trainee shares its purposes. For instance, the trainee may have entered the program in order not to expend too much time or intellectual energy and, also, have at the end a career insurance policy in the form of a teaching certificate. Or, to go to the second black box, the induction system for beginning teachers: the purpose of the system designers may be to take an unfinished teacher and provide advanced training in the form of more highly developed professional skills. On the other hand, the purpose of the first-year teacher may be simply to get a contract and become a second-year teacher. In like manner, the purpose of the third box of the inservice training system may be to provide specific skills or to train the teacher in new areas. On the other hand, the purpose of the experienced teacher may be to get to a higher level on the salary schedule without having to cut too deeply into their discretionary time and energies.

This whole area of the system's real purposes needs much greater clarity. In addition, I believe, we need to know much more about the congruity between the real purposes of the system and the real purposes of the trainers and trainees involved in the system's processes.

Process Components

The human transformations that are to go on in each of these three systems--preservice, induction and inservice--are carried out by process components, which, in effect, do the work of the system. They are designed to actually make the changes. There is a difficulty here, though. For instance, in a mechanical system, such as a V-8 engine, the process components have certain very observable attributes. However, when we speak of teacher education, we need to operate at a different level of generality. The components are neither as observable nor as sharply defined. Nevertheless, there are activities going on within the boxes that most people would agree fit with certain labels.

Preservice components. Most college catalogs in describing teacher education programs list certain components not unlike the following: introduction to education; special methods courses; psychological, historical and philosophical foundations; and some form of student teaching. Increasingly, programs are adding early experience or career exploration components. Many of the components have subcomponents such as micro-teaching, simulations of classroom problems, and various clinical experiences. These individual components, then, are expected to make a change in the preservice student. Laid out in a certain configuration, they are expected to take a non-teacher and transform him into a teacher.

My colleague, Desmond Cook, tells me that a system is what we decide to call it. He means, I believe, that we draw the system's boundaries and we, therefore, can include or exclude what we want. With this in mind, it might be worthwhile just to point towards some possible other preservice teacher training components, ones that are not in the college catalog. For example, neo-Freudians would suggest we learn to be teachers while still in the crib. Wright and Tuska (1969) suggest that our orientation as teachers is strongly affected by our early social interactions with parents and other siblings. Another component that has long fascinated me is the effect, quite unknown, of the long years of teacher-watching that all of us undergo before entering teacher education. My calculations suggest that we have each watched the equivalent of ten thousand full length movies of the teaching process. I find it impossible to conclude that this has not had a substantial impact on our behavior as teachers. It would appear that we have ignored a number of the more interesting process components in our study of preservice teacher-education.

The induction components. At the outset, we must acknowledge that it is difficult to talk about the teacher training that goes on during the induction period. For one thing, induction is not a very well defined concept in education. We speak of new teachers and a probationary period, but we do not know a great deal about the process. Nor is there a clear or well defined set of interventions or process components to which we can point.

The following list is suggestive of some things that some school districts do for beginners, particularly in the first year of their induction period: the orientation meetings for new teachers prior to the beginning of the school year; special meetings of first year teachers with administrators and others, such as representatives of the teachers association; a formal or informal buddy system;

and a few classroom observations and followup conferences. In most cases, these components disappear or drop off in frequency after the first year. Nevertheless, until tenure, the beginning teacher receives a special scrutiny, if not special assistance.

Inservice components. The components of inservice training are more discernable than those of the induction period, but still a good deal less obvious and less precise than the preservice components. One way to break down these components would be to categorize them into those the teacher pursues on his own and those he pursues with other teachers in his building. The most obvious among the first group, those he pursues on his own, are graduate courses and graduate programs. Some of these components are directed at improving the teacher in the teaching role; that is, improving his teaching performance. Others are training for new roles, such as guidance counselor and have little relationship to his current teaching. Increasingly, the graduate program in education is becoming a major component in the teacher's inservice development. As of 1976, thirty-seven percent of teachers hold masters degrees, and one would guess a large percentage are in the process of acquiring such degrees.

Other components which are becoming increasingly popular about which we know relatively little are professional leave days and sabbaticals. However, it is a common requirement that the teacher specify what it is he or she will gain as a result of the experience.

The most widespread type of inservice is that provided for teachers as a collective, normally at the building level. Some of this inservice training is highly focused. For instance, the school decides to adopt a new mathematics series and all the elementary teachers in the building need to be trained in the new approach. Or, it is decided that discipline is a major problem in the school, and all teachers undergo training in a particular method of classroom management. Another type of collective inservice training would be a more generalized type of training, such as instruction in new methods of reading, where the intention is to provide staff development rather than to prepare new teachers to do something specifically different.

Somewhere between these two types of components, the individually pursued and the group experience components, is the teacher center, a relatively new concept. Here, the teacher as an individual or with colleagues of his choosing engages in activities that normally relate directly to his own teaching concerns.

These, then, are the more or less discernable components that are in place. They are supported as part of a transformation process, a process that is supposed to help the trained teacher become more effective as a professional.

Environment

The process of teacher education is not the sum of the actions of the components on the input. Environmental factors surround the process and its individual components. While extracurricular activities and other distractions of university life have effects on the outcomes of training programs, the impact of the environment on the induction and inservice phase of teacher education seem more obvious. One set of environmental factors are the expectations of students and parents. Surely, the kind of teacher one becomes is influenced by whether one is teaching in Scarsdale, New York, or in the South Bronx. Other environmental factors are the expectations or professional culture established by one's teacher colleagues. Another important environmental factor is the state of the job market. If the job market is tight, one would suspect that the behavior of the untenured teacher is affected. Many other environmental factors, such as faculty morale, administrative style, possibly even the age of the faculty, represent what might be called the hidden curriculum of induction and inservice teacher education. Surely, these environmental factors have some effect on the teacher and on how he experiences the more visible components.

The Configurations of Teacher Education

The components of teacher training are normally seen as interacting together as part of a total process. They can, however, interact in very different configurations of delivery systems. This is perhaps most dramatically seen in preservice phase. The dominant configuration is undergraduate teacher education. Ninety percent or more of teachers become professionals using this route.

During the 1960's and 50's, though, another delivery system was rather widely used--the post-baccalaureate training program. The most well known of these is the MAT or Master of Art in Teaching pattern. This alternative approach allows not only for a late decision into teacher education, but provides the teacher, particularly the secondary school teacher, with more opportunity to take courses in his teaching field. Although there is some continued study of one's content field in this graduate program, the concentration is on the professional components. As the teacher shortage turned into a surplus, the MAT pattern has become less popular

A third configuration is what I would call, for lack of a better word, the "slip through" configuration. Here the student skirts the formal preservice teacher education programs and somehow finds a job in a classroom and later some form of state certification. Many private and parochial schools recruit from people who have bypassed teacher training. Some of these teachers have taken some of the components in programs, but never had the time or opportunity to take the full sequence. While fifteen years ago it was quite common for public schools to hire people who had utilized the "slip through" configuration, this is not the case today.

Research on Process

There are several plaguing problems with research on the process of teacher education. One of the most vexing, mentioned earlier, is that we do not have a common product or output in mind. A second problem has to do with the process components. We have approximately 1,369 colleges and universities preparing teachers. Many of these institutions maintain several different teacher training programs. For instance, my own institution, Ohio State University, has some twenty-three distinct programs. Therefore, one cannot count on a process component, such as an educational psychology course or special methods course to be the same from one institution to the next. There is a great variability in how these process components exist and function in programs. For instance, if we say that fifty-five percent of the teacher education programs in the country employ the process component microteaching, what are we saying? I fear, not a great deal. For although microteaching is a comparatively well defined process component, the different ways in which it is applied presumably have widely different effects. In some programs, the microteaching students are children. Some preservice teachers are given opportunity to master many skills in a microteaching setting. The preservice student progresses from one skill to the next only after attaining a relatively high level of mastery and spending many, many hours in this training component. In another program, microteaching may be done with other preservice students acting as teachers and students. One or two skills are practiced and levels of mastery are not specified. Nevertheless, both programs claim microteaching as a process component.

Added to the unclear product problem and the lack of clarity about the components, there is the question of the process itself. I have wondered about the impact of what goes on inside our three black boxes, particularly the preservice box. Other than a strong hunch that field-based experiences have an impact or impacts--and these impacts are probably both positive and negative--it is a real question whether the total process has a substantial impact on its trainees. One might argue, lacking any substantial evidence to the contrary, that teacher education is a very weak treatment. Indeed, it may be little more than a placebo. (This speculation, incidently, is not to argue for the abolition of teacher education. As every successful doctor knows, even placebos are useful.)

It is questionable, however, that the few resources that we have available to us to study teacher education are most fruitfully spent measuring the impact of specific process components in specific environments with particular teachers and students or even the process as a whole. I am persuaded by a question that Frances Fuller and Oliver Bown raised a few years ago in the National Society for the Study of Education Yearbook on Teacher Education (1975). After acknowledging the importance of the question, "Which interventions by which interveners in which situations elicit what responses from which prospective teacher?" Fuller and Bown end their essay with the plea that we answer a more fundamental question, "What is out there?" If for no other reason but to make informed judgments about how to use our limited training resources in teacher education, we must know the answer to the question, "What's out there?" For purposes of clarification, let me suggest a few questions about what is out there which are not about the system's components or products, but its people (inputs) and environment surrounding the components. For instance, we need to know who is going into teacher education today. What do they really know about their content fields? What do they want from college, from a career, from life? What are they experiencing as they go through a pre-established teacher training process? This question is interesting to me because I suspect that we have designed our training programs for someone who we believe has made a clear career choice and is committed to teaching. Is it possible that many of the people going through our programs are unclear about why they are there and have a very low level commitment to teaching? If so, how does this affect the way they go through the training program? I hear little recognition among teacher educators of the other things that are competing for the attention of their students, such as their struggle to break away from their parents and become independent; their quest for new friendships; their grappling with new problems, such as an incompatible roommate; their search for a marriage partner; the intellectual and emotional turmoil they are experiencing as values and deeply held faiths are threatened. What I am suggesting is that we know very little about the relationship of our training and what is really going on in the minds and emotions of our students. In any event, we need to know much more about the match between student input and program process.

Moving to the next box, the induction box, it seems that we have the reverse situation. We finally have the young person's attention, but we have no training process. Let me be more specific. Those of us who have scratched the surface of what's going on in the life of beginning teachers have a very distinct sense that something very powerful is going on here. Contrary to the picture of the distracted preservice young person, the beginning teacher is extremely aroused, if not overchallenged. What we see in many cases is a new teacher who has been lulled into a false security by a sheltered student teacher experience. Early in the first term as a teacher in his own classroom, he experiences a crisis, usually related to classroom management, and he is aroused as in no other time in his life. His job and, indeed, his personhood have been threatened. Now, he is ready to learn to be a teacher. He begins a search for "what works." He is ready to follow anyone who can give him an answer. And if he looks hard enough, answers do come from the environment. His administrators, his colleagues, and even his students indicate what is acceptable and valued behavior. It would seem that at this time of doubt and vulnerability the real teacher education goes on and, again, we know very little about it.

When we move to the third box, the inservice teacher education box, a real process of diffusion goes on. Here we are talking about over two million professionals at different levels with very distinct kinds of needs in thousands of different schools and variables. I think, nevertheless, that the question is still "What's out there?" We need to have a much better fix on what is going on in the minds of teachers inservice. The question that I have personally been interested in in the last several months is whether or not, for the majority of teachers, teaching should be a lifetime career. It may be that in the very nature of teaching it is, for many, a "burn out" career. By that, I mean an activity that is so physically and psychologically demanding that they can only do it for a relatively short period, perhaps three or four or five years. If this hypothesis is correct, inservice training may be the proverbial band-aid on a gaping wound. Recent research by my colleague, Katherine Newman of the University of Houston, suggests that formal inservice process has little meaning and less value to veteran teachers (1978). Newman's teachers, who have taught anywhere from nineteen to thirty-five years, range in attitude toward inservice training from mere tolerance to disgust.

Summary

If we are seriously to pursue the question of what is out there, we should attend to the story about the empirical scientist who wished to find out about all the living creatures that exist in the sea. He cast the net into the sea, examined the catch and then proudly announced the empirical law, "All sea creatures are no more than two inches long." If we are to get past the obvious, the two inch creatures, we need to attend to our nets.

References

Ashby, W.R. General systems theory as a discipline. In L. von Bertalanffy and A. Rapoport (Eds.), General Systems, Yearbook of the Society for General Systems Research, (Vol. 111). Ann Arbor, Michigan: University of Michigan Press, 1958, 1-6.

Banathy, B. Instructional systems. Palo Alto, California: Fearon Publishers, 1968, 4.

Cook, D. Personal communications. December, 1978.

Fuller, F., & Bown, O. Becoming a teacher. In Kevin Ryan (Ed.), Teacher education: The seventy fourth yearbook of the National Society for the Study of Education (Part II). Chicago: University of Chicago Press, 1975, 52.

Newman, K. Middle-aged experienced teachers' perceptions of their career development. Doctoral dissertation, Ohio State University, 1978, 269-70.

Wright, B.D., & Tuska, S. From dream to life in the psychology of becoming a teacher. School Review, 1967, 75, 205-15.

PROCESS AND INSERVICE TEACHER EDUCATION

Elizabeth A. Dillon-Peterson
Lincoln, Nebraska, Public Schools

This paper will focus on aspects of process relating to teacher education primarily from the viewpoint of in-district inservice programmers. It will (a) define "process" as it is used in the paper; (b) relate human needs to the process of inservice teacher education; (c) relate organizational health to effective process; (d) identify characteristics of effective staff development processes; (e) describe examples of successful delivery systems or processes in inservice practice. It will deal only with the teacher inservice process, not with inservice for other staff members nor with effects on student learning.

Process: A Definition

As indicated in materials describing the rationale for this conference, considerably less attention has been paid to the process of teacher education than has been paid to the content. Conventional wisdom tells us that certain processes seem to work while others are less successful, but there is little more than empirical evidence upon which to base decisions or construct programs of either preservice or inservice education. Not to pay attention to the empirical evidence, however, is to overlook a potentially valuable source of information which could provide many useful research studies. It is the purpose of this paper to identify some of the practices which appear to be successful for further consideration.

To initiate a discussion of the process of teacher education, it may be helpful to consider the definition of "process." Webster's Collegiate Dictionary defines it as, "A natural phenomenon marked by gradual changes that lead toward a particular result (of growth)"; "a series of actions or operations conducing to an end; a continuous operation or treatment."

Key words or phrases in these definitions, in terms of inservice teacher education or staff development (which are used interchangeably) are: "natural phenomenon," "gradual changes," "toward a particular result," "series of actions," "conducing to an end," "continuous operation or treatment," and particularly "result (of growth)."

These terms provide the foundation for the basic premises of this paper, which are that the process of inservice teacher education, if it is to be optimally successful, should

-- be aimed at growth rather than remediation.
-- arise as naturally as possible from the work situation and needs identified by the participants.
-- be gradual but continuous.
-- lead toward identified outcomes.

Human Needs and Process

Growth is stimulated or retarded in all growing things by the quality of the environment. In education, the environment is primarily the organization--the educational bureaucracy--and the place of the individual within that organization. Educators reflect the health or malaise of their particular organization as clearly by their response to inservice activities as they do in any other way. Consequently, it is important to recognize the needs of the human beings who work in schools and to provide for those needs if staff development is to be effective--one might even say if the entire educational process itself is to be effective.

A helpful frame of reference for consideration of human needs and their implications for teacher education is Maslow's hierarchy (see Appendix I). Attention to each individual's placement on the hierarchy with concomitant attention to meeting his or her individual needs has proven to be a valid way to create a healthy climate for inservice teacher education. It has been demonstrated that inservice under the right circumstances can become not only a well-accepted activity, but also one in which individual staff members feel genuine ownership. As a result, they can, and do, look upon it as facilitative rather than onerous.

This paper cannot deal extensively with the application of Maslowian principles to work with teachers, but one example may be useful. Many teachers, when required to attend inservice programs mandated from the central office, are apathetic if not openly critical or even hostile. However, if they themselves have had a substantial part in planning the activity, and particularly if they have provided leadership for it, they are customarily agreeable or even enthusiastic.

One might postulate from this that staff member ego needs are being met more adequately in the second situation where their opinions are taken into account in planning and execution, and where there is recognition for them as contributing professionals rather than as "subjects."

Organizational Health and Process

Because organizations are perceived to exist primarily for the purpose of accomplishing the tasks for which they were formed, they frequently do not take adequate notice of human needs of those who work in them. This, unfortunately, is true in many educational organizations.

In reality, if staff members are to do well in their work roles, they must feel good about themselves, and must feel a sense of ownership in the goals of the organization in toto and of their particular level or assignment in particular. This means that the management philosophy of a healthy organization will include shared-decision-making; implementation decisions made where possible closest to the level where they must be carried out; open communication; reasonable autonomy and flexibility as opposed to tight control and rigid regulations; an orientation toward continuous growth and development on the part of all individuals within the organization; and respect for the contributions of each staff member. A staff development program may itself contribute to--or detract from--a healthy organizational climate. A highly-centralized, central-office-mandated inservice program usually reflects an organizational climate in which there is little professional trust or openness, and to which staff members react with suspicion and resistance. Conversely, a staff development program planned and executed by people at all levels of the organization contributes to high morale and tends to break down the ever-present barrier between the central office and the individuals in the classrooms.

Characteristics of an Effective Staff Development Process

In the light of individual needs and organizational needs, effective inservice teacher education process will have many of the following characteristics:

1. It will involve at least representatives of the target audience in identifying staff development needs, setting objectives, and implementing plans for delivering the program.

2. It will take into account the fact that learning is incremental, and that it proceeds from a comfort level into which new elements are introduced gradually and related to old learning.

3. It will respect the experience and competence that adults bring to the learning situation, and build on those experiences.

4. It will provide opportunities for sharing of those experiences and techniques participants have found successful in dealing with the content or problem under consideration.

5. It will arise as naturally as possible from the real situation or problems of the working environment, and will provide practical, immediately applicable materials or techniques if appropriate.

6. It will recognize the considerable obvious and latent expertise existing in any group of adults which make them capable of solving their own problems, given support and practice in problem-identification and problem-solving.

7. It will recognize and accommodate for the various developmental levels or learning styles of those participating.

8. It will include a wide variety of experiences ranging from those designed to pique interest or provide initial orientation through in-depth, long-term exposure which is intended to result in internalization of new behaviors.

9. It will take into account characteristics of human beings as they relate to change.

10. It will provide continuous followup and on-site assistance where substantial behavior change is expected. This will extend over time to insure natural inclusion of new behaviors.

11. It will include regular evaluation of all major staff development efforts which are then considered in future inservice planning.

Practical Applications of Successful Process

Putting these successful characteristics into practice is a very difficult process. All human beings in the organization are at different points on the continuum. They each bring a different agenda to each inservice activity. They have their own developmental levels, value orientations, and set of experiences. Finding a common ground upon which to conduct the activity is not an easy task.

Nor is it easy to assess and work successfully within the organizational context. The organization may not recognize the needs for inservice. It may actually resist the process. Or it may facilitate the process. The leaders of the organization may be enlightened or stereotypic. They may be autocratic or democratic, threatened or self-assured--and these behaviors may change with the prevailing climate of the community at any given time.

In spite of these vicissitudes, there appear to be certain practices related to staff development which _do_ work, which _do_ create a positive attitude toward inservice training, and which conventional wisdom (in the absence of hard research data) would indicate contribute toward student achievement. Examples of some of these which illustrate effective staff development process are described in the following paragraphs.

Involvement

A school building advisory committee works with the building principal to review data, determine needs, establish staff development objectives, develop a staff development plan, request resources to implement the plan, implement the plan, evaluate or monitor progress, and use information gained to establish the next set of objectives. (Appendix II)

Learning by Increments

A staff development effort is designed to implement a new curriculum in written composition. It is organized on three levels. The first is a broad overview orientation which gives all staff members who are expected eventually to implement the curriculum a non-threatening, low-visibility understanding of the new curriculum. This phase explains how the new curriculum is different from what is currently being done, describes a variety of levels of involvement that individual teachers or buildings may "buy into," and clearly spells out the expectations for each teacher for the final complete implementation of the curriculum. The second is an "early adopter" phase, in which teachers who have been heavily involved in the curriculum development and staff development planning pilot the staff development activity with their colleagues who volunteer for the "pilot" stage. The third stage is one in which all staff members indicate at what point they wish to be involved in the training within a given time frame. It is an "options within no options" level, since all teachers must eventually be acquainted with the curriculum in order to be able to teach it effectively, but it does recognize the need of each individual to retain some control.

Recognition and Respect

Recognizing the power in teacher-leadership, the school district selects superior classroom teachers with expertise in certain areas (e.g., classroom management) to be part of a "Helping Teacher Cadre." They serve in this capacity for one year on a two-day per month released time basis to assist their colleagues in any way they are called upon in relation to their area of specialty. They may teach formal inservice classes, conduct workshops, chair sharing sessions, or meet one-to-one with teachers.

Sharing

Reading in secondary content areas is targeted as a building improvement project. In a teacher-led group, participants engage in problem-identification sessions in which they identify specific reading-related problems and brainstorm possible solutions with the help of the reading resource teacher. At followup meetings they report on the success of strategies tried.

Practical, Immediately Applicable

Teachers are pragmatic people. They daily face a highly structured, demanding, relatively inflexible schedule which allows little time for creative thought. They are anxious to make teaching more interesting for themselves and their students, but considering the added pressures of complex curriculum and the changing nature of the student population, they find it hard to come up with new ideas or design new materials. This may be the reason that "make it and take it" workshops are so popular with teachers. In these workshops, teachers are presented with an idea which they sense intuitively will work, they design and/or construct classroom materials based on this idea and carry it away in a concrete form which they can use with students immediately. They may appear to like this also because it makes teaching more interesting for them, and consequently more stimulating for students.

Individual Differences

Teachers are constantly being told to individualize for students, but seldom is any significant effort made to individualize for them. One activity having this objective was one in which teachers were given several ways of learning about how to construct and use learning centers in their classrooms. They were encouraged to select one of the following approaches: a highly-structured traditional teacher/student teacher-directed class; a series of learning centers structured to teach participants how to construct and use learning centers; independent study in which the participant was given a list of learning materials, access to a resource person, and a list of objectives to be met.

Variety

An effective staff development program is one in which a wide variety of kinds of activities are taking place continuously. These will range from brief, cursory exposure activities to long-term activities with continuous reinforcement and review. The comprehensive district staff development program will include most or all of the following kinds of activities within a period of a year: short (3-4 hour) workshops focused on a narrow topic (e.g., construction of effective bulletin boards); formal classes similar to university courses extending for a period of a semester or a year (e.g., mainstreaming for the regular classroom teacher); "open" centers where teachers may go to practice or learn new techniques with the help of resource personnel (e.g., "open labs" for art liaison teachers who perfect their techniques for working with their colleagues in their buildings); a "hot line" which teachers may call to get answers to immediately pressing questions; a teacher cadre which is on call to assist teachers in any way--through observing, demonstrating, teaming, presenting workshops; intensive, short-term workshops (e.g., three-day workshops on such topics as adult learning, for teacher-staff developers); extensive "smorgasbord" inservice days with a broad array of offerings intended to encourage further exploration of topics presented or to build enthusiasm and acceptance for future staff development activities.

Concerns Related to Change

In preparing to work with her prospective staff in planning the instructional program for a new open-space school, an elementary principal used the Concerns Based Assessment Survey (R&D Center, The University of Texas, Austin) to determine how best to proceed. Using the profile developed from this survey, she alleviated much of thee trauma that would normally accompany such a major change.

Evaluation

Part of evaluation is knowing what it is you're intending to accomplish. One elementary school establishes a building plan which states what program improvement is intended as clearly as possible. The building principal then writes her own job targets to support these goals, as do team leaders, and classroom teachers. Finally, individual children write them and all of them periodically review progress.

Research Questions

1. How can we instill in all educators the desire for and expectation of continuous career-long and life-long professional growth?
2. How can preservice and inservice education become more systematic and scientific, thereby enabling teachers to become more sophisticated diagnosticians and prescribers while preserving their creativity, sense of dignity and self-determination?
3. How can we work with all educators in such a way as to give them all real ownership in, and responsibility for, the necessary individual and collective professional growth which leads eventually to improvement of the total organization?
4. How can we help all participants in the educational enterprise to live productively with stress and change?
5. How can we give educators the skills needed to provide what may be the only stabilizing, humane environment in which children can become emotionally and psychologically healthy, competent and productive?

APPENDIX I*

Physiological Needs

Man is a wanting animal--as soon as one of his needs is satisfied, another appears in its place. This process is unending. It continued from birth to death.

Man's needs are organized in a series of levels--a hierarchy of importance. At the lowest level, but preeminent in importance when they are thwarted, are his physiological needs. Man lives for bread alone, when there is no bread. Unless the circumstances are unusual, his needs for love, for status, for recognition are inoperative when his stomach has been empty for a while. But when he eats regularly and adequately, hunger ceases to be an important motivation. The same is true of the other physiological needs of man--for rest, exercise, shelter, protection from the elements.

A satisfied need is not a motivator of behavior! This is a fact of profound significance that is regularly ignored in the conventional approach to the management of people. Consider your own need for air: except as you are deprived of it, it has no appreciable motivating effect upon your behavior.

Safety Needs

When the physiological needs are reasonably satisfied, needs at the next higher level begin to dominate man's behavior--to motivate him. These are called safety needs. They are needs for protection against danger, threat, deprivation. Some people mistakenly refer to these as needs for security. However, unless man is in a dependent relationship where he fears arbitrary deprivation, he does not demand security. The need is for the "fairest possible break." When he is confident of this, he is more than willing to take risks. But when he feels threatened or dependent, his greatest need is for guarantees, for protection, for security.

The fact needs little emphasis that, since every industrial employee is in a dependent relationship, safety needs may assume considerable importance. Arbitrary management actions, behavior which arouses uncertainty with respect to continued employment or which reflects favoritism or discrimination, unpredictable administration of policy--these can be powerful motivators of the safety needs in the employment relationship at every level, from worker to vice president.

---

*Excerpted from: MacGregor, D. The human side of the enterprise. The Management Review, November 1957, 46 (1), 22-28.

Social Needs

When man's physiological needs are satisfied and he is no longer fearful about his physical welfare, his social needs become important motivators of his behavior--needs for belonging, for association, for acceptance by his fellows, for giving and receiving freindship and love.

Management knows today of the existence of these needs, but it often assumes quite wrongly that they represent a threat to the organization. Many studies have demonstrated that the tightly knit, cohesive work group may, under proper conditions, be far more effective than an equal number of separate individuals in achieving organizational goals.

Yet management, fearing group hostility to its own objectives, often goes to considerable lengths to control and direct human efforts in ways that are inimical to the natural "groupiness" of human beings. When man's social needs--and perhaps his safety needs, too--are thus thwarted, he behaves in ways which tend to defeat organizational objectives. He becomes resistant, antagonistic, uncooperative. But this behavior is a consequence, not a cause.

Ego Needs

Above the social needs--in the sense that they do not become motivators until lower levels are reasonably satisfied--are the needs of greatest significance to management and to man himself. They are the egoistic needs, and they are of two kinds:

1. Those needs that relate to one's self-esteem--needs for self-confidence, for independence, for achievement, for competence, for knowledge.

2. Those needs that relate to one's reputation--needs for status, for recognition, for appreciation, for the deserved respect of one's fellows.

Unlike the lower needs, these are rarely satisfied; man seeks indefinitely for more satisfaction of these needs once they have become important to him. But they do not appear in any significant way until physiological, safety, and social needs are all reasonably satisfied.

The typical industrial organization offers few opportunities for the satisfaction of these egoistic needs to people at lower levels in the hierarchy. The conventional methods of organizing work, particularly in mass-production industries, give little heed to these aspects of human motivation. If the practices of scientific management were deliberately calculated to thwart these needs, they could hardly accomplish this purpose better than they do.

Self-Fulfillment Needs

Finally--a capstone, as it were, on the hierarchy of man's needs--there are what we may call the needs for self-fulfillment. These are the needs for realizing one's own potentialities, for continued self-development, for being creative in the broadest sense of that term.

It is clear that the conditions of modern life give only limited opportunity for these relatively weak needs to obtain expression. The deprivation most people experience with respect to other lower-level needs diverts their energies into the struggle to satisfy those needs, and the needs for self-fulfillment remain dormant.

WORKING DRAFT COPY

APPENDIX II

LINCOLN PUBLIC SCHOOLS
Instructional Services

PROGRAM IMPROVEMENT PLAN FOR:

_______________ for _______________
School or Department   School Year

GOAL -- What, in general, do you intend to do? (Please state as simply and directly as possible.)

NEED -- What circumstances make this project necessary?

OBJECTIVES -- What specifically is to be accomplished by what time? (State in such a way that evaluation criteria are included.)

NAME_______________________________

SCHOOL_______________ DATE__________

BREAKDOWN OF FUNDING REQUESTED

Area	Description	Cost
Salaries (hourly/stipend pay to staff members)		
Substitutes (people on LPS process)		
Contracted Services (persons not on staff) Incl. honorarium, travel expenses.		
Supplies (special materials approved for project, incl. catered meals)		
Teacher Travel (regis. fee, transp., lodging-single rate, meals-$10 per diem)		
Administrator Travel (regis. fee, transp., lodging-single rate, meals-$10 per diem)		

SUB-TOTAL _____

*Professional Travel (include meals, lodging, transportation, and registration) up to ____________________

CHECKLIST -- What must be done (or has already been done) to accomplish the objectives? (Check those which apply.)

____ Order supplies, instructional materials or equipment. (Within regular allocations or with special approval of Assoc. Supt. for Instruction.)

____ Make staffing arrangements. (Within staffing point allocation and approved at staffing conference.)

____ Provide staff development: activities which are intended to help staff members acquire knowledge, attitudes, and skills necessary to implement program. (Funding approved by Director of Staff Development.)

____ Provide curriculum planning: preparation and organization of materials by selected staff members, usually for use by others in addition to themselves. (Funding approved by Assoc. Supt. for Instruction.)

____ Modify facilities if necessary. (Within facility requests and approved by Superintendent.)

____ Other (please list): ______________________________

GROWTH AND REFLECTION AS AIMS IN TEACHER EDUCATION: DIRECTIONS FOR RESEARCH

Sharon Feiman Nemser
Denver, Colorado

Metaphors in Teacher Education

I have been asked to discuss "alternative delivery systems in teacher education," more specifically to focus on "ways and means of teaching teachers which optimize continuous growth and encourage reflection."

The figures of speech in this assignment imply the existence of contrasting frameworks for the study and practice of teacher education. On the one hand, we have a technological metaphor associated with the search for effective behaviors which can be delivered to teachers through skills training. People who endorse this viewpoint generally believe that teachers need training because they lack professional skills. They tend to define teaching in behavioral terms and to rely on research for prescriptions about effective practice. On the other hand, we have a biological metaphor associated with the search for environmental conditions which nourish professional growth. People who endorse this viewpoint tend to define teaching as a complex activity and to view inservice as a way of increasing teachers' awareness of what they are doing. They have more faith in teachers' motivation and capacity for problem-solving, and in the power of reflection to facilitate change.

Why do I elaborate these differing points of view? I want to emphasize that a commitment to reflection and growth represents a major departure from conventional views about teaching teachers and major trends in research on teaching.

Conventional notions of teacher education do not accommodate a concept of continuing professional growth. Preservice programs are supposed to pass on the knowledge, skills and attitudes required for teaching. Beginning teachers are expected to handle the same responsibilities as experienced teachers. Inservice training is largely viewed as a matter of maintenance and updating.

All this flies in the face of what we know from research and personal experience--that one learns to teach by teaching. Teachers, interviewed by Lortie (1975), emphasized the primacy of classroom experience in learning to teach. Kohl (1976) offers this personal testimony: "Like any craft, one learns teaching by practicing it . . . . The essentials . . . begin when one has the responsibility for a class or group of people" (p. 11).

We simply don't take this seriously. If we did, Marjorie Martus (1978) observes, the public schools would be staffed to provide help with the kind of learning that best occurs on the job--learning to integrate knowledge of subject and student in daily instruction. We would also have to rethink the notion of preparation for teaching. As it is, learning from teaching as a student teacher or on the job is highly unpredictable. Nor have we established procedures for encouraging teachers to share their expertise with each other.

The current rhetoric of staff development favors a growth perspective. Much of the inservice literature speaks of nurturing professional growth and development, a striking contrast to the prevailing rhetoric of competency-based training just a short while ago. Still, most research on teaching and teacher education continues to endorse a delivery system or deficit approach. Research on teaching has been dominated by process-product studies which seek casual relationships between teacher behaviors and student achievement. The purpose of this research is to identify effective teaching skills that can be used in teacher training programs (Gage, 1978). The major research and development efforts in teacher education over the past ten years have focused on developing and testing the efficacy of new products (e.g., minicourses) and procedures (e.g., microteaching) for changing teacher behavior in pre-specified ways (Turner, 1975). Thus, a narrow view of teaching focused on the delivery of skills to students goes hand in hand with a narrow view of teacher training geared mainly to shaping and refining performance.

Fortunately, there is a growing sentiment that identifying behaviors and training teachers to produce them rests on a very limited understanding of teaching and learning to teach. Some researchers have begun to explore "the mental life of teachers," acknowledging that what teachers do is affected by what they think (Clark & Yinger, 1977). Surely knowing more about how teachers think and what they believe will enlarge our understanding of teaching. It will not, however, tell us how teachers' thoughts and beliefs change over time or can be changed. This is the unique concern of teacher educators and the special province of research in teacher education (Lanier & Floden, 1978).

Research on how teachers think about what they do could yield important insights. There is a danger, however, that cognitive findings will be treated as products to put into teachers' heads. This would fit the conventional expectation that research outcomes should be translated into prescriptions for practice. It would also reinforce the deficit or training view that teachers need to be taught what to think as well as what to do. An alternative would consider the scientific study of teaching as a model of seriousness, a quest for increasing understanding, a process of disciplined inquiry about problems of practice. From this standpoint, teachers should be inducted into the habits of research for the sake of their own development and our collective understanding of pedagogy.

This returns us to our topic. I have suggested that reflection and growth differ from those outcomes (knowledge and skills) typically sought in teacher education programs and that they raise questions not addressed by mainstream research on teaching. The stage is now set for a closer look at what these terms imply for teacher education, a survey of promising practices in their service, and a discussion of researchable issues.

Teacher Education as the Development of Experience

In trying to clarify the terms "growth" and "reflection" as educational aims, Dewey is a good place to begin. "To reflect," he writes, "is to look back over what has been done to extract the net meanings which are the capital stock for dealing with further experiences" (1963a, p. 87). Reflection is the means by which ordinary experience is transformed from that which is primarily perceived to that which is understood.

As long as things go smoothly, we act in our customary manner. Reflection begins when the equilibrium of habitual action is disturbed in some way and the tendency to act is turned inward to produce reflection. Gradually, the difficulty or doubt which has been felt is transformed into [illegible] problem to be solved. Possible future actions are entertained and their consequences envisioned. Eventually, the inner activity gives way to outward action (Dewey, 1933).

Common sense inquiry and scientific inquiry share a common pattern. Both originate in some perplexity or difficulty and both involve an active search for something to clear up the situation or solve the problem. Dewey's concept of experience also shares certain features with the deliverate experimentation of the scientist. An experience is not just something that happens to someone. It results from the interaction of an individual with his environment.

From this follows Dewey's philosophy of education as the development of experience. "The aim of education is to enable individuals to continue their education . . . the object and reward of learning is continued capacity for growth" (1933, p. 100). Every experience affects, for better or worse, the quality of future experiences. Experiences are educative if they engage the learner's present capacities, needs and purposes in ways that contribute to richer experiences in the future. The teacher must be able to "see" what is going on in the minds of those who are learning in order to judge whether attitudes and habits are developing which are conducive or detrimental to growth.

Teacher educators misunderstand Dewey when they say, for example, "Let's concentrate on practical techniques at the preservice level and save the theoretical material until teachers have survived their first year and accumulated some experience to reflect on." In the first place, prospective teachers have in their own experience a lot of practical materials to illustrate the principles that govern learning, the conditions that support or hinder it. To ignore this experience perpetuates the myth that "school learning" is different from learning in ordinary experience, and encourages the use of teaching methods that would never seem trustworthy outside school. Secondly, without an understanding of the underlying principles that make techniques effective, the (student) teacher acquires the "outward form of method" without the "capacity to put it to genuinely educative use . . . . Such persons seem to know how to teach, but they are not students of teaching. Unless a teacher is such a student, he may continue to improve in the mechanics of classroom management, but he cannot grow as a teacher" (Dewey, 1965, p. 151).

In developing the habit of reflection, Dewey stresses the cultivation of attitudes over the exercise of logical processes. He names three as constituents of a reflective disposition: openmindedness, wholeheartedness, and intellectual responsibility. Dewey is talking about a way of meeting and responding to situations, a readiness to consider a thoughtful way whatever comes within the range of experience (1933). The following statement by a teacher participating in a seminar on children's thinking illustrates this reflective stance:

> The basis of our work has been that we are not starting out with answers, but really starting with problems. . . . No one is being asked to produce great solutions, to come in with dazzling stories of great successes. It is the things that intrigue us, that amuse us and perplex us, the times when we are left thinking, 'Now there is a lot going on here and I don't think I've caught it all'--it is that sort of situation, instead of one in which we say, 'Well, look at what I did today!' (Hull, 1978, p. 27)

Growth and Reflection as Procedural Aims

There are no standardized procedures for delivering growth and transmitting reflection to teachers. One develops the habit of reflection in teaching through varied opportunities to study one's practice in the company of reflective, non-judgmental colleagues. Similarly, one grows as a teacher in settings that value and support professional learning and offer accessible models. (Teacher) Educators are accustomed to thinking in terms of treatments and outcomes, but a commitment to growth and reflection requires a different paradigm.

In an essay entitled, "Must an Educator Have an Aim?" R. S. Peters (1968) makes a distinction between aims which are appropriately formulated as objectives and aims which do not describe the outcomes of teaching and learning activities but rather the manner in which they should be carried out. He argues: "Values are involved in education not so much as goals or end-products, but as principles implicit in different manners of proceeding or procuding" (p. 29).

Growth and reflection are procedural aims. They can be translated into process criteria to be used in designing and evaluating ways of working with teachers across the preservice-inservice continuum and different working conditions. This involves clarifying the values embodied in these aims and expressing them in the form of procedural guidelines or enabling conditions.

For example, a commitment to these aims implies that one values a certain kind of process, professional learning that is self-regulated, not engineered by someone else. As Michael Eraut (1975) has argued: professional growth "is not something that can be forced because it is the teacher who develops (active) and not the teacher who is developed (passive)." Besides a belief in the teacher as an active agent in his own learning, there is an underlying assumption that the more aware a teacher is of hiw own actions, the greater the likelihood that he can control or change them. Herein lies the worth and role of reflection. Through reflection or what John Elliot (1976) calls "self-monitoring," the teacher becomes "aware of his situation and his own role as an agent in it" (p. 9).

How can this autonomous and reflective process be fostered? Elliott (n.d.) offers one answer--by removing constraints on teachers' access to alternative beliefs and courses of action.

> Only in the light of knowledge of alternatives can people reflect critically about their own beliefs and conduct . . . one must also necessarily remove constraints on the critical discussion of alternatives. If a teacher is not allowed to question alternatives, he cannot use them to test his own beliefs and practices. (p. 5)

This brief analysis illustrates how the process for realizing such aims as teacher growth and reflection is implied by the aims themselves. Conceptual research could help clarify the environmental and psychological conditions that should logically obtain for teacher growth and reflection to be fostered.

In addition, there are teacher educators working in the spirit of these goals, and settings infused with their associated values. A second research strategy would involve careful study of such situations in collaboration with teacher educators committed to these procedural aims. Hawkins' (1966) observation that "the best practice excels the best theory in quite essential ways" (p. 11) surely applies here. We could learn much from close scrutiny of promising practices.

Promising Practices: Past and Present

Growth and reflection do not lend themselves to short-term interventions or simple techniques. The promise of any approach informed by these aims resides less in the techniques and more in the way the values they reflect are realized in the situation. Because this is difficult to convey in a brief sketch, I will give one extended example from the past with clear parallels in certain aspects of teacher center programs.

The Bank Street Workshop

Even before World War II, New York City had begun to revise its elementary curriculum in the direction of more active learning through direct experiences. Teachers were encouraged to try out the principles and content suggested in the Board of Education bulletins. There was considerable confusion about what the "new" curriculum actually meant. In 1943, Bank Street was asked to conduct a workshop for teachers.

The goal of the workshop was "to further teachers' growth toward professional maturity." The staff also viewed the workshop as a laboratory for exploring the kinds of experiences, approaches, and techniques best suited to fostering professional growth in an inservice setting. The experiment is vividly described by Lucy Sprague Mitchel in Our Children, Our Schools (1950). One sees the workshop in action over a period of six years. Data, drawn from daily records, contains numerous examples of problems encountered and solutions tried.

The success or failure of the various inservice techniques were assessed in terms of their contribution to teachers' development. Two were seen as essential: work with individual teachers in classrooms and group discussion. The following summary of the value of group discussion expresses many assumptions associated with teacher centers:

> Group discussions can bring about a sharing of the problems which teachers have in common in their work and break through a sort of wary isolation in which so many teachers work; they help extend a teacher's thinking about his job from his classroom to the whole school . . . this makes for the development of wider interests and wider responsibilities. This development cannot be hurried. It is not a thing that can be taught directly. It develops gradually at different rates and along different lines with different groups of teachers. Here a Workshop must follow the leads of the teachers. (p. 386)

In addition to careful documentation of what actually went on, Mitchel analyzes the pattern of the workshop in relation to changes in teachers' attitudes and thinking. She relates teachers' initial preoccupation with how to use the "new" teaching techniques to their attitude toward their job--an attitude fostered by the hierarchical structure of the system. Basically, teachers saw themselves as responsible for carrying out official directives, not for thinking through education problems.

The staff conceived their job on two levels: "to work with teachers on the basic relationships underlying curriculum thinking while working with them on the new teaching techniques around which their anxieties centered" (p. 142). Mitchel describes the first state of the workshop as "a period of educational gadgeteering."

The second stage was marked by a desire to acquire more background content. At first, the staff supplied source materials which the teachers eagerly used. Gradually, they came to realize that they needed to know more to teach this way. This meant a growing appreciation for the variety of sources which could enrich the curriculum and an acceptance of more after-school work as part of their job.

Teachers' understanding and interest broadened along two lines--child development and subject matter.

> In our new schools, as had been true in our first school, we were leaving the stage of development which calls for the answers to the 'just how do we' questions and taking our thinking into the realms of 'why do we do what we do' in terms of our understandings of children's growth and development.

When these two lines merged in a concept of curriculum building, the third stage had been reached. Teachers concerned about problem children came to be interested in the growth of all children. Teachers who thought of curriculum in terms of units and discrete activities gradually came to think about a year's program of progressive experiences built around basic concepts.

Teacher Center Programs

Advisory work. A similar pattern of development has been noted by some advisors working with teachers who are trying to create more responsive learning environments (Apelman, 1978). In-classroom advising is one of several teacher center activities designed to support teacher efforts to change. The support is called "advisory" because it comes from outside the existing supervisory structure, and depends on voluntarism and trust. Pat Zigarmi (1978) sees in the provision of advisors a "recognition of the fact that routines are comfortable and predictable and not earily broken and that for change to occur ongoing support is required" (p. 183).

Descriptions of what advisors do reveal many of the same practices noted above at least during the early stages of change where the emphasis is on practical classroom support as requested by the teacher (Katz, 1974; Alberty & Dropkin, 1975). The developmental pattern of work is also reflected in a study by Anne Bussis, Edward Chittenden and Marianne Amarel (1976) who interviewed teachers about the kinds of support they received from advisors. They identify thirteen categories of support which they order to show "a general progression from what is basically a consumer orientation . . . to a more active role by the teacher in terms of self-investment, critical judgment, conceptual reorganization" (pp. 157-158). This formulation meshes with the aim of advisory programs:

> Despite their different strategies and logistics, all the advisory services shared the goal of helping teachers assume a more thoughtful and active role in influencing the educational environment . . . their ultimate aim was not to provide isolated services or singular solutions to a particular problem, but to provide a range of support that would enable teachers to analyze situations and arrive at their own decisions (p. 157).

To what extent advisors actually do help teachers become more reflective is an important research question. Some believe that advising can be quite successful in helping teachers begin to move toward more informal ways of teaching, but that something else is needed to stretch teachers' understandings to new levels of professional development (Hull, 1978; Churchill & Petner, 1977). Others have questioned whether the pattern of advisory work which begins with the practical "how-to" problems in the context

147

of a highly personalized relationship sets up expectations and reinforces habits that make it harder to encourage independent initiative later on (Cook & Mack, 1975).

A major finding of the interview study mentioned above is that different teachers perceived the same advising behavior in quite different ways. In another advisory context, Spodek and Manolakes (1972) note that the same teachers wanted different kinds of help from advisors over time (p. 23). These findings and speculations underscore the subtle difficulties of advisory work and suggest the need to study the relationship between what advisors do and how teachers change over time.

Summer Institute. Hands-on workshops where teachers explore and construct materials are a staple in many teacher centers. Whether this activity becomes an end in itself or a step in a learning process may depend in part on whether the staff is committed to fostering growth through reflection. Just as the Bank Street Workshop staff conceived its job on two levels, so do some experienced teachers' centers, as Kathleen Devaney (1978) explains:

> . . . experienced, developmental based teachers' centers attend to teachers' expressions of immediate need for games, activity cards, and other embellishments for the classroom and variations on the lesson. But they also work to eventually engage the teacher in challenging study, at an adult level, of new subject matter and children's learning. (p. 3)

This, of course, requires more intensive activities. In keeping with a view of learning as the development of experience, center staff try to make the teacher's own study more accessible to analysis and reflection. Lillian Weber (1977) explains how the Summer Institute at the Workshop Center for Open Education helps teachers re-experience their own learning and, by analogy, gain insight into children's learning:

> The Summer Institute, with its three uninterrupted weeks of focus by the same participants, is part and parcel of our effort to foster active learning and to create an ambience that encourages such learning . . . . In those three weeks, there is time to stay with a material, previously known only in a surface manner, and to begin to uncover the workings of a point previously only known by rote . . . . Teachers invest these beginnings with great importance and themselves make analogies to children's learning. (p. 3)

Study groups. Centers also sponsor courses and study groups to sustain the intellectual curiosity of experienced teachers and to extend their understanding of children. Earlier in this paper, I illustrated what Dewey means by a reflective stance toward teaching by quoting a teacher participating in a seminar on children's thinking. That seminar, begun seven years ago by Bill Hull (1978), continues to meet. "Without it," another participant observed, "I might be just an experienced teacher teaching The Illiad for the tenth time. The seminar was a source of support as well as the start of a powerful process of growth" (Jervis, 1978, p. 58).

Members agree that the most unique feature of the seminars is their format. Discussions focus on "instances" of children's thinking that teachers bring in each week. There is a strictly held ground-rule about focusing on specific children in specific describable situations. Generalizations, abstractions and theories are actively discouraged. The group leader acts as discussion facilitator; the meeting is taped and written up by the leader in the form of "Notes and Commentary."

The insistence on sticking to specific examples encourages teachers to develop powers of observation and recall, which, in turn, increase their awareness of what they do in the classroom. The seminar provides an opportunity for teachers to articulate what they know intuitively and the written record enables them to see and share their cumulating insights. Whereas there is no attempt to change what teachers do, there is an underlying assumption that productive ways of thinking about common experience will increase teachers' readiness to modify their practice. Hull explains how the seminar increases self-awareness:

> Much of what a teacher knows lies below the level of consciousness . . . . Seminaring provides the opportunity to bring some of this knowledge closer to the surface, to share insights and to sort out one's experience in such a way that awareness is increased. (1978, p. 6)

Needed Research

Many teachers' centers view their "surround" as a powerful model for teachers in thinking about their own classrooms. In the early days, there was a strong faith in the efficacy of a stimulating and psychologically-supportive environment to promote teacher growth. Gradually, more extended ways of working have evolved to allow for continuity and reflection.

The examples presented--advising, summer institutes, teacher seminars--share a view of professional development that is on-going and depends on the ability to learn from one's experiences. More specifically, each of these strategies embodies certain assumptions about how this learning takes place and what the consequences are for improved practice. Research could document and test the theories and hypotheses implicit in this approach to professional learning.

The researchable issues can be stated in terms of three general questions.

(1) What do we mean by "reflection" and "growth" in teaching? What do these terms imply for preservice, induction and inservice teacher education?

We clearly need a better idea of what these concepts stand for and why they are desirable ends-in-view. In part, this is an empirical question, but it also is an important topic for conceptual research. Teachers are not plants, and teaching can hardly be characterized as a contemplative activity. Is growth just a synonym for change, or is its use an attempt to shift attention from the more visible behavioral changes to altered attitudes, heightened awareness, new ways of thinking?

A clarification of the values embodied in these aims would help us develop criteria for examining situations where they are being enacted. I have suggested one approach to this analytic task based on Peter's notion of "procedural aims." The guidelines that result would allow us to speculate on questions of this general form: Are these conditions or procedures likely to support continuing professional development or are they more likely to close a teacher off from continuing learning? What are the possible effects of this activity or program or setting on the attitudes and habits that determine a teacher's openness to on-the-job learning?

> (2) How can these aims be fostered? What kinds of approaches, activities, opportunities can help a teacher develop, exercise the habit of reflection and sustain an inquiring stance toward teaching?

To some extent, research on school innovation can shed light on this question. For example, the Rand Change Agent study (Berman & McLaughlin, 1977) suggests a number of factors (including a growth-oriented implementation strategy) that contribute to a successful project. Not surprisingly, a successful project looks a lot like a good staff development program, which, it turns out, is less a function of a program per se and more a function of the point of view that pervades the district. Milbrey

McLaughlin (1977) labels it the "Pygmalian in-the-District Effect"--referring to a pervasive expectation about teachers as professionals responsible for improving in their work.

The question I am asking, however, is not a sociological question, but a curricular one, posed from the standpoint of a teacher educator interested in finding out more about how to help teachers (preservice, beginning, experienced) learn to monitor their teaching, use observation as a basis for decision making, view their work as a form of inquiry. What we need are vivid pictures of educational activities over time, not a list of discrete factors. Lucy Sprague Mitchel's study (1950), from which I drew the example of the Bank Street experiment, is one model.

The most straightforward strategy is to study environments and activities deliberately designed to foster these aims. Teachers' centers and advisories are strategic research sites; so are inquiry-oriented preservice programs (Feiman, 1979). We need what Sarason, Davidson, and Blatt called for in 1962: "detailed descriptions of how teachers are actually trained, descriptions which encourage the feeling that we know what the practices consist of, their relation to stated aims and the problems we would encounter in scientifically testing their consequences" (p. 120).

Teacher educators who work closely with teachers over time and who are committed to fostering reflection are ideal collaborators in this research since their work is precisely what we are trying to understand. What are the implicit views of teacher development which these teacher educators hold? How do they modify their ways of working in response to differences among teachers at the same "stage" and differences between teachers at different "stages?"

(3) What consequences accrue to teachers as a result of inquiry-oriented preparation and opportunities to reflect on their practice?

The question about consequences takes a somewhat different form depending on the teacher education setting and career stage. For example, do beginning teachers who have begun to develop the habit of reflection experience the kind of first year so often described in the literature (Ryan, 1970; Fuchs, 1969)? Do they encouner "typical" problems of beginning teachers or more to the point, do they have different resources and tools for problem solving? With regard to experienced teachers, research can help us broaden our conception of what constitutes a valuable outcome--by tracing the relationships among different effects. Exactly how do teacher centers or child study groups or advisory work or curriculum development activities contribute to heightened awareness, a sense of efficacy, a changed attitude toward teaching? What then are the effects on teaching? These kinds of questions call for a careful tracing of how different teachers mediate certain kinds of professional learning experiences. Such research would help us better understand the connections between feeling and thinking like a professional and doing a professional job.

References

Alberty, B., & Dropkin, R. The open education advisor. New York: The Workshop Center for Open Education, 1975

Apelman, M. A permanently tentative curriculum. In R. Edelfelt & E. Brooks (Eds.), Breakaway to multidimensional approaches: Integrating curriculum developments and inservice education. Washington, D.C.: Association of Teacher Educators, 1978.

Berman, P., & McLaughlin, M. Federal programs supporting educational change, Vol. IV: The findings in review. Santa Monica, Calif.: The Rand Corporation, 1977.

Bussis, A., Chittenden, E., & Amarel, M. Beyond surface curriculum: An interview study of teachers' understandings. Boulder, Col.: Westview Press, 1976.

Churchill, E., & Petner, J. *Children's language and thinking: A report of work-in-progress*. Grand Forks, N.D.: The University of North Dakota, North Dakota Study Group on Evaluation, Center for Teaching and Learning, 1977.

Clark, C., & Yinger, R. Research on teacher thinking. *Curriculum Inquiry*, Winter 1977, *7*(4), 279-304.

Cook, A., & Mack, H. *The word and the thing: Ways of seeing the teacher*. Grand Forks, N.D.: The University of North Dakota, North Dakota Study Group on Evaluation, Center for Teaching and Learning, 1975.

Devaney, K. On delivering staff development. *Staff Development Newsletter*, Winter 1978. Austin, Tex.: Professional Development Associates.

Dewey, J. *How we think: A restatement of the relation of reflective thinking to the educative process*. Chicago: Henry Regnery Co., 1933.

Dewey, J. *Democracy and education*. New York: Macmillian, 1963 (a).

Dewey, J. *Experience and education*. New York: Collier, 1963 (b).

Dewey, J. The relation of theory to practice in education of teachers. In M. Borrowman (Ed.), *Teacher education in America: A documental history*. New York: Teachers College Press, 1965.

Elliott, J. *Developing hypotheses about classrooms from teachers' practical constructs*. Grand Forks, N.D.: The University of North Dakota, North Dakota Study Group on Evaluation, Center for Teaching and Learning, 1976.

Elliott, J. *Evaluating inservice activities: From above or below?* England: Cambridge Institute of Education, n.d., mimeo.

Eraut, M. *Strategies for promoting teacher development*. England: University of Sussex, School of Education, 1975, mimeo.

Feiman, S. Technique and inquiry in teacher education: A curricular case study. *Curriculum Inquiry*, 1979, *9*(1), 63-79.

Fuchs, E. *Teachers talk: Views from inside city schools*. New York: Anchor Books, 1969.

Gage, N. L. *The scientific basis of the art of teaching*. New York: Teachers College Press, 1978.

Hawkins, D. Learning the unteachable. In L. Shulman & E. Keislar (Eds.), *Learning by discovery: A critical appraisal*. Chicago: Rand McNally, 1966.

Hull, B. *Teachers' seminars on children's thinking: A progress report*. Grand Forks, N.D.: The University of North Dakota, North Dakota Study Group on Evaluation, Center for Teaching and Learning, 1978.

Jervis, K. *Children's thinking in the classroom*. Grand Forks, N.D.: The University of North Dakota, North Dakota Study Group on Evaluation, Center for Teaching and Learning, 1978.

Katz, L., Morpurgo, J., Asper, L., & Wolf, R. The advisory approach to inservice training. *Journal of Teacher Education*, Summer 1974, *25*(2), 154-159.

Kohl, H. *On teaching*. New York: Macmillian Co., 1976.

Lanier, J., & Floden, R. Research and development needs for the advancement of teacher education. Research Series 8. East Lansing: Institute for Research on Teaching, Michigan State University, 1978.

Lortie, D. *Schoolteacher: A sociological study*. Chicago: University of Chicago Press, 1975.

Martus, M. Foreward. In S. Feiman (Ed.), *Teacher centers: What place in education?* Chicago: Center for Policy Study, University of Chicago, 1978.

McLaughlin, M. Pygmalion in the school district: Issues for staff development programs. In K. Devaney (Ed.), *Essays on teachers' centers*. San Francisco: Far West Laboratory for Educational Research and Development, Teachers' Centers Exchange, 1977.

Mitchel, L. S. *Our children, our schools*. New York: Simon and Schuster, 1950.

Peters, R. S. Must an educator have an aim? In Macmillian & Nelson (Eds.), *Concepts of teaching*. Chicago: Rand McNally, 1968.

Ryan, K. (Ed.). *Don't smile until christmas: Accounts of the first year of teaching*. Chicago: University of Chicago Press, 1970.

Sarason, S., Davidson, K., & Blatt, B. *The preparation of teachers: An unstudied problem in education.* New York: John Wiley and Sons, 1962.

Spodek, B., & Manolakes, T. In-class teacher training for open education. Paper presented at the annual meeting of the American Education Research Association, Chicago, April 1972.

Turner, R. L. An overview of research/in teacher education. In K. Ryan (Ed.), *Teacher education: The 74th yearbook of the national society for the study of education* (Part II), 1975.

Weber, L. The teacher as learner. In R. Dropkin (Ed.), *The center and the summer institute.* New York: City College Workshop Center for Open Education, 1977.

Zigarmi, P. Teacher centers: A model for teacher-initiated staff development. *Teachers College Record*, September 1978, *80*(1), 172-187.

TEACHER INDUCTION: AN ASPECT OF THE EDUCATION AND PROFESSIONAL DEVELOPMENT OF TEACHERS

Richard P. Tisher
Monash University, Melbourne, Australia

An Introduction to Induction

This paper focusses on teacher induction--the formal introduction of new teachers into the profession--and draws upon the findings and experiences of an Australian research team to propose directions for further research and for constructive educational action.

Some Features About Entry to Teaching

It is generally assumed that induction occurs during the first year of service. In this paper, that period is taken as the essential one to be studied if we are to understand fully the nature of new teachers' entry to the profession and the manner in which they come to grips with the realities of the classroom. Of course, it may be argued that induction, as well as professional socialization, begins before formal entry into employment since during their preservice education, new teachers are being introduced formally to a number of aspects of their role as teachers. It is useful, however, to limit discussions on induction to the first year of teaching in order to tease apart many of the complex relationships associated with teachers' development during that period. Most discussions in Australia and the United Kingdom, for example, seem to adopt this stance. The interest in this period is also occasioned by the belief that teachers are not finished products at the end of preservice education and must learn much more about teaching from their experienced colleagues in schools. Furthermore, there are many dramatic changes in responsibilities from being a trainee to being a teacher and on-the-spot help seems to be required if new teachers are to cope. Lortie (1975) notes that, compared to many other forms of work, entry to teaching differs markedly. There appears to be no eased entry such as occurs in apprenticeship, nor does there appear to be a sharing of entry experiences with more mature, longer-serving colleagues. From being students responsible only to themselves for their own learning, almost overnight beginning teachers become fully responsible for the instruction of their pupils from the first working day. In fact, an expectation seems to be that they should perform the same tasks as the 25-year veteran.

These changes from being a trainee to being a teacher seem to produce various forms of "shock," resulting in such thinks as disenchantment with preservice programs, a temporary jettisoning of educational ideals and the use of teaching strategies which ensure the teacher is the main disseminator of information and the one who "calls the tune" in classroom interaction. Of course, the situation described is by no means a simple one and there are many complex associations which lead to the adoption of certain teaching strategies or the disenchantment with preservice education. Among other things, the attitudes of and help received from more experienced colleagues play a crucial role in new teachers' induction. In the national survey of induction in Australia, one beginning teacher highlighted this fact when he said:

> The staff in a school can make or break you, whereas children are much the same all round. If you have a good integrated and supporting staff it makes life a lot easier.

Induction Is Only One Facet of Professional Development

Although entry to teaching is an extremely important stage and affects the nature of teachers' socialization into teaching, it is only one of several stages in the professional development of teachers. It must, I believe, be considered as one facet of professional development along with other stages such as preservice education, periods of striving for promotion, and the period preceding retirement.

Some Concepts Related to Professional Socialization

Procedures designed to facilitate induction and to help in professional socialization must take into account that teachers can be creative as well as subject to constraining social factors. As Fyfield, Taylor and Tisher (1978) note:

> A number of theoretical explanations place a greater emphasis on the constraining, rather than the creative features in the process. Some emphasize the formative role of early experiences, such as protracted exposure to potent models (e.g., own previous teachers) which results in the internalizing of modes of behavior which are triggered in later teaching (Lortie, 1966, 1973). Others (Edgar & Warren, 1969; Haller, 1967; Hoy, 1969) maintain that the influences of peers are predominant or that socialization is a function of colleagues having authority, or that pupils' behaviors may mould beginning teachers. Undoubtedly, all these play a part in varying degrees, but the socialization of teachers is a more complex, interactive, negotiated and provisional process (Lacey, 1977) than most of the preceding explanations allow. It involves a continual reshaping of teachers' perspectives and behaviors as they confront various situations. Their values, attitudes, interests, skills and knowledge will be fashioned through the various encounters, but these will not necessarily be irrevocably set as they face up to the constant flow of choices occurring to them. When new teachers take up their first appointment they enter areas of competing pressures (Lortie, 1975) where they must adopt or create appropriate social strategies to help them cope with the social situations confronting them. These strategies are of several types (Lacey, 1977).

> In some instances, there will be internalized adjustments when the teachers accept and internalize existing values, practices and their supporting arguments. In others, they will remain only partially convinced, owing, in part, to the characteristics they bring into the new setting. Skills, values, attitudes, perspectives acquired during preservice education may comprise these, and these in turn constitute a "latent culture" (Lacey, 1977) that may be activated on future occasions. To get by in circumstances in which they are only partially convinced, the new teachers may resort to strategic compliance without complete internalization. Alternatively, they may engage in strategic redefinition, attempting to wrestle with the constraints of a situation and to change the perspectives of those who hold strategic power. (p. 1-2)

It is important to discover the various factors and the associations between them that affect whether new teachers internalize existing values, comply or attempt to redefine situations. The nature of the educational setting, contacts with peers and types of induction experiences are clearly among the influential features but what mixes of characteristics are the most potent in enhancing professional development and educational skills are not clearly understood.

Australian Concerns About Induction

There has always been concern in Australia about the quality of new recruits to teaching and with how they manage during their first year. In recent years, state and territory Education Departments, Regional Offices, Teachers' Centres, schools, and teachers' and principals' organizations have given much more attention to these matters and to the manner in which the new recruits are absorbed into schools. State, regional and school authorities have begun to conduct a number of induction programs, but, until recently, the nature and prevalence of these and their effects were not fully known--in fact, there is still much to be learned about them.

In 1976, when teacher recruitment was much higher than in 1979* a national Teacher Induction Project was established with sponsorship from the Education Research and Development Committee. The project was designed to identify the various forms of induction in Australia and to document as fully as possible what actually was the nature of beginning teachers' entry into the profession.

It is the first national study of Australia's beginning teachers, but it is not the first survey of new teachers. A variety of smaller, localized studies have been completed by principals, teachers' groups, colleges of advanced education, inservice education groups, regional education officers and officers of state education research branches. Studies specifically dealing with induction are rare, although the Western Australian Education Department completed an interview survey of some primary school teachers and their principals during March-April of 1977 (Education Department, W.A., 1977), the Commonwealth Teaching Service used the A.C.T. and Northern Territory data derived from the Teacher Induction Project in their report on the probationary year (Dunkley, Biles, Doherty, O'Conner, Payne & Downey, 1978) and Canning (1978) focussed on the induction experience of cohorts of new primary teachers from Burwood State College. The smaller studies have noted similar trends to those in the more extensive national survey which also provides more detailed, representative information than the smaller local projects on the concerns of new teachers (Anderton, 1976; Gasson, Otto & Jordan, 1977; Mitchell & Chisholm, 1977; Scriven & Shaw, 1977) and complements previous findings on what it is like to be a teacher in Australian government schools (Campbell, 1975). While Australian studies of induction are rare, there are nevertheless quite a number of published statements advocating certain induction practices and recently several employing authorities, teachers' unions and committees of inquiry have enunciated induction policies (c.f. Dunkley, Biles, Doherty, O'Connor, Payne & Downey, 1978; Education Department of South Australia, 1978; Union Committee of Inquiry, 1978). Most are based on personal views and experiences. Consequently, the findings of the national survey have practical implications for schools and employing authorities and challenge experienced teachers and others to promote an encouraging climate into which young teachers can move confidently and creatively.

---

*Although there is now an "oversupply of teachers" in Australia and, as a consequence, a reduced intake of new teachers to the profession, the challenges for induction in 1979 do not differ greatly from those which existed in 1977.

Some Characteristics of the Australian Teacher Induction Project

The Australian project team now believes that new studies of induction should take greater account of Lacey's (1977) conceptualizations relating to the role of beginning teachers' latent culture in various settings. When the Australian study was launched, his publication had not appeared; however, the team had formulated a complementary conceptualization to guide data collection and questionnaire compilation. We believe our approach was a necessary precursor to any further work using Lacey's ideas. Furthermore, the simple conceptualization for questionnaire construction was a distinctive feature of the study, setting it apart from comparable localized surveys of induction in the United Kingdom (c.f. Bolam, 1973; Bolam & Baker, 1974). The approach could well be emulated in other surveys; however, there is a definite limit to surveys on teacher induction. I wish to refer to other profitable research endeavors later in this paper.

The Rationalization for Questionnaire Construction

Briefly, the rationalization envisaged beginning teachers entering differing spheres of influence as they moved from preservice education into the hurly-burly of classroom life. By the time they complete their preservice education, the prospective teachers have acquired a "latent culture" of knowledge, skills, attitudes and values in anticipation of their professional performance. The team wished to trace some elements of the activation of this latent culture as the beginning teachers came progressively under the influence of the profession at large, an employing authority, a new and possibly unknown kind of community, the school whose staff they had joined, and finally the class or classes of children with whom they will spend the greater part of their working day.

In the questionnaires, we included items to identify the assistance and information that are made available to new teachers at each stage in the transition, the extent to which expectations are met, and some of their reactions, joys and disappointments.

Liaison with Policy Makers and Dissemination

Another characteristic of the Australian study was the use made of a national representative liaison committee drawn from staff and territory employing authorities, teachers' unions, the national curriculum development center and schools commission. This group acted as a "sounding board" for the team, indicated the issues in which their authorities were interested and paved the way for entry to all states and territories. During 1978, members helped the project directors in the critical first stage of the dissemination of the findings. The project was allocated supplementary funds from the Education Research and Development Committee so that the directors could go to meetings in all Australian states and territories to outline the salient findings. Policy makers, regional directors, counselors, research officers, teacher trainers, principals and union representatives were among those who attended. The exercise was an attempt to acquaint key educators with the results as quickly as possible after the collation of the final draft report and to receive their comments before final printing. This has been an extremely valuable, effective part of the whole project. As a consequence of the interactions with these key personnel, greater interest has been generated in the final report, the team has been encouraged to include their "reflections" on induction in Australia, and due to expressed interest, one or two minor features omitted from the draft version will now be included. Note, the project team and liaison committee decided initially that the audience for the final report should be employing authorities, senior officers in education departments, senior union officials and teacher educators. The team is now also preparing a series of short, snappy statements to appear in small brochures for dissemination to all Australian schools--and brief statements are being written for professional news sheets.

Stages in the Project

In order to document as fully as possible what actually was the nature of beginning teachers' entry into the profession, it was essential first to discover the range of experiences they might encounter. So, the first stage of the project was designed to obtain an overview of the variety of induction practices that employers, senior administrators, regional officers and senior teachers reported were in existence. To achieve the objective, an associate from the South Australian Education Department visited all Australian states and territories to gather anecdotal information. This was supplemented later with details collected by the project team and the information is presented in a first report, "Beginning to Teach" (Tisher, Fyfield & Taylor, 1978). The information gleaned during stage I guided questionnaire construction in stage II, and assisted in the identification of geographical and administrative regions where there were many, few or no induction activities, or where there were special induction problems.

During stage II of the project, which consisted of three phases, the aim was to document as fully as possible the nature of beginning teachers' entry to the profession. The three phases were, respectively, the construction and administration of a questionnaire for principals and another for beginning teachers, interviews with a number of beginning teachers and the administration of a second questionnaire to beginning teachers towards the end of their first year in schools. The interview phase, we believe, was a most essential part of the study and is a feature which, according to us, should be included more frequently in research projects of a similar ilk to ours. The interviews with over 200 selected beginning teachers acted as a check on the interpretation of the data from the questionnaires and gave the project team further insights into the experiences and perceptions of beginning teachers in remote centers, rural areas, inner city industrial regions, coastal centers and regions with and without sophisticated induction programs.

A Recapitulation

The discussion to date, in addition to specifying some of the characteristics of the Australian Teacher Induction Project, also draws attention to two useful theoretical frameworks and to some methodological considerations that could well be used in future research on teacher induction. There is reference also to some practical procedures to facilitate the dissemination of findings and to enhance their impact on educational policy.

Some of the Findings

The study has produced a wealth of intriguing, challenging information even though it was not an experimental study to compare, in a controlled manner, the impact of various forms of induction in different settings, important as these activities are. The project has provided a variety of insights and generated ideas for additional studies in induction. It has served as the necessary precursor to experimental studies as well as an important source of data for policy makers. However, the information it contains can be variously interpreted depending on your point of view. On the one hand, it may be considered gratifying that the majority of new teachers were satisfied with their appointment, considered they were managing most teaching tasks adequately* and believed they were fully accepted within their school. On the other hand, it may be considered an indictment that 50 percent received no help with their teaching during their first week, more than one-third believed they were not fully accepted in their schools, about one-quarter admitted that they were managing many teacher tasks less than adequately, and for more than eleven percent the actuality of teaching was not measuring up to expectations.

Several features are considered to be quite significant by the project team. Three, which also have implications for further innovations and study, are singled out for comment.

The cavalier treatment of new teachers. Even though educational authorities maintain they provide a variety of induction activities for new teachers, the fact that only 40 percent of the nation's beginning teachers were involved in an activity designed especially for them and only one-half found it of any value indicates that new teachers are not as well served as many would have us believe. The project team are of the opinion that the treatment of Australia's beginning teachers, overall, during their first

---

*Table 1 shows the percentages of respondents who considered the listed teacher tasks as managed adequately by beginning teachers and a worry to them.

TABLE 1. Teacher Tasks

Is the Item Managed Adequately by Beginning Teachers and Is It a Worry to Them?

Task Item	Managing(1)			Managing and Worrying(2)			Worrying(3)		
	Percentages of			Percentages of			Percentages of		
	Beginning Teachers (March)	Beginning Teachers (October)	Principals	Beginning Teachers (March)	Beginning Teachers (October)	Principals	Beginning Teachers (March)	Beginning Teachers (October)	Principals
Devising schemes of work	82	86	60	34	25	36	47	35	68
Organizing lesson content	90	91	68	26	19	37	33	25	63
Discovering level at which to teach	70	73	42	32	25	24	57	47	76
Assessing students' work	79	80	50	27	20	24	44	37	63
Recording students' progress	77	81	70	17	13	21	35	26	43
Evaluating own teaching	64	64	33	28	25	18	58	55	48
Discovering personal behavior expected by school	87	86	85	16	11	15	24	21	22
Performing form teacher duties	76	70	65	8	6	13	12	10	22
Performing yard duties	92	90	86	7	9	13	11	12	18
Motivating pupils	69	67	60	30	26	27	56	54	56
Controlling classes	80	78	46	30	22	29	46	38	64
Using audio visual aids	72	73	73	8	5	9	25	20	23
Teaching specific skills	65	64	44	23	19	19	49	41	62
Teaching groups with wide ability range	56	55	23	33	26	14	69	63	81
Teaching slow learners	53	48	21	27	22	13	64	62	81
Teaching immigrants	45	36	16	14	11	9	32	30	51

(1) These three columns show those who saw the task as managed adequately by beginning teachers, whether a worry to them or not.

(2) These three columns show those who saw the task, though managed adequately, as a worry to beginning teachers.

(3) These three columns show those who saw the task as a worry to beginning teachers, whether managed adequately or not.

year is somewhat cavalier. In part this is due to the fact that some senior colleagues have forgotten what it is like to be a new teacher. Concerted effort is needed to ensure that a higher proportion of those entering teaching receive an adequate, effective induction.

Senior colleagues as providers. Where beginning teachers are involved in induction activities, senior experienced colleagues are, more often than not, cast in the role of providers of information, including advice on programming and teacher classroom tasks. Rarely, if at all, are beginning teachers invited to tell their senior colleagues about new knowledge and insights gleaned during preservice education. I believe that induction must be a two-way process between new and experienced teachers. If beginning teachers are to feel they are fully accepted in their schools with worthwhile contributions to make, they should be given opportunities to share their store of knowledge, as well as receiving ideas from others. It would be valuable to study the effect of those contexts where beginning teachers are accepted as providers as well as receivers of ideas. Also, if beginning teachers are to be viewed as providers of valuable ideas there must be changes in senior teachers' perceptions of their new colleagues. This has implications for inservice education and especially for the training of those who will be responsible for induction in schools.

The quality of interpersonal relationships. During the interview phase of the Teacher Induction Project, the team became acutely aware of the influence of trusted and liked colleagues on beginning teachers. The quality of inter-personal relationships among teachers and between new and experienced colleagues affected the nature of induction activities as well as beginning teachers' perceptions of their value. The reactions of beginning teachers to the varied opportunities or provisions made for them were more easily interpreted by considering the variations in interpersonal relationships across schools. Generally, it seemed that where schools contained an integrated and supportive staff, new teachers valued their induction activities and believed they were fully accepted. Unfortunately, the national survey by its very nature could not examine the nature and effects of school contexts including interpersonal relationships in adequate detail. This needs to be done in other projects.

Directions for Research on Teacher Induction

Some directions for research on induction are specified below, but before the nature of any project is finally formulated there may need to be a preliminary period of discussion and negotiation with teachers. Too often, educational researchers restrict their attention to problems that appeal to them or are amenable to certain accepted academically respectable analytic techniques. Little consideration appears to be given to those problems of interest to teachers. If research on induction is to have a greater impact on practice, more attention must be given to teachers' views on significant research problems--teachers could, in fact, be included on research teams as collaborators.

In Australia, before further nationally funded projects are undertaken, it is proposed to convene a representative two-day national conference at which state and territory personnel can share ideas about induction as well as interact with the Teacher Induction Project team. It is anticipated that the conference will also generate proposals for projects which belong to the three categories of new directions named below.

Detailed Contextual Studies

It was stated earlier that the Teacher Induction Project by its very nature could not examine the effects different contexts had on induction and on beginning teachers' satisfactions or degree of managing and worrying about teacher tasks. It is essential to understand more about the effects different school and classroom contexts have upon induction, the quality of induction activities and new teachers' effectiveness. In particular, attention should be directed to the quality of interpersonal relationships between teachers in different settings. The following research questions are among those that could be used to guide the studies. What impact do different types of school environments have upon the induction experiences of different types of beginning teachers? What are the relationships between beginning teachers' latent culture and features of the school environment, including its organizational characteristics, staff collaboration and morale and collegiate professionality? Many variables will need to be studied in order to answer the questions and cluster techniques (e.g., H-group), and discriminant analysis could be used with profit to specify appropriate mixes of new teacher and environment types for effective induction. These procedures have been used successfully in another national study on the spread of an educational innovation (c.f. Owen & Tisher, 1978).

Studies of Specific Issues

In association with the detailed contextual studies referred to above, there are a number of specific issues requiring more concentrated attention since they are among those of particular interest to teacher educators, educational innovators and professional associations. During discussions with Australian educators on the draft report of the teacher induction project, three issues were frequently mentioned.

The effect of different preservice programs on induction. Teacher educators are keen to know whether the products from their particular preservice program are better able to manage teacher tasks and gain more from induction activities than products from other programs. The experiences and development of cohorts of new teachers from distinctly different preservice programs need to be documented in detail. How do they manage in different school contexts? Do those from school-based teacher education programs fare much better than those from other programs? What benefits do they gain from different induction activities? These are some of the questions teacher educators ask, and the answers to them will not only provide insights on the effects of induction activities on certain groups of new teachers, but also will aid in the evaluation of specific types of preservice programs. Of course, whether studies on these questions are to be accorded a high priority is another matter.

The effect of Open Plan environments on induction. Many supporters of Open Plan educational environments maintain that Open Plan schools provide greater support for beginning teachers and allow induction to be undertaken more effectively than in other more conventional school environments. Whether this is so is a moot and controversial point, especially in Australia where some educational authorities have committed themselves to the establishment of numbers of Open Plan schools. Now, whereas the Teacher Induction Project was not designed to study the issue, impressions gleaned during the interview phase in 1977 were that new teachers, including those ideologically committed to Open Education, found Open Plan schools anxiety- and stress-inducing places. Many stated they would prefer to find their feet while cloistered in a more traditional single-teacher classroom. Bearing in mind the current debate on Open Education, it is highly desirable to examine in greater detail the impact that various Open Plan schools have on the induction of beginning teachers and on the development of their teaching skills. The issues are complex ones demanding energy, dedication and intellectual tenacity from the researchers who will be required to operationalize a number of ill-defined concepts. Carefully conceptualized studies on Open Education are rare, but some significant advances have recently been made by members of the research branch of the Western Australia Education Department. The advances will be reported at the AERA Annual Conference in San Francisco.*

Changes in teachers' job satisfaction. In a period of oversupply of teachers,** reduction of opportunities for promotion, increase in the proportion of persons remaining longer in teaching, greater numbers of fixed-term rather than tenured appointments, and a high proportion of younger teachers, it is essential, as always, to maintain a satisfied, vigorous, educationally creative profession. It is important to learn more about the trends and patterns of new and experienced teachers' job satisfaction and the factors that affect it. I believe that research on the matter, which should be given a high priority, will yield valuable insights for inservice educators and enhance our understanding of the professional development and socialization of teachers.

An attempt was made in the Teacher Induction Project to tap aspects of satisfaction with teaching by gathering data on the extent to which beginning teachers thought the actualities of teaching matched their expectations. The relevant section in the questionnaire was influenced by the writings of Lawler (1973), and teachers in the October sample were invited to consider each of fifteen listed items in in two ways. The items formed a Maslow-type hierarchy (see Table 2). First, they were asked to indicate the extent to which the item characterized their first year of teaching by rating it high (H), low (L), non-existent (N), and

---

*Details are also provided in Angus, Beck and Hill (1978) and Angus, Beck, Hill and McAtee (1978).

**Oversupply of teachers or as some state it, "the under-utilization of resources," is occasioned by economic factors including the decision by employing authorities to hire fewer new teachers.

TABLE 2

Comparison of Actual and Possible Aspects of First Year of Teaching
For Beginning Teachers in October
(Percentages)

Aspect of Job	Actuality Equal to Expectation	Actuality Less than Expectation	Undecided
A feeling of security	58	18	23
Opportunity to help children	69	15	16
Opportunity to develop friendships	65	17	18
A feeling of esteem	44	19	37
Prestige in the eyes of people outside the school	43	10	47
A feeling of authority	52	17	31
Opportunity to act independently	65	17	18
Opportunity to influence the philosophy of the school	46	26	28
Opportunity to participate in curriculum and program planning	61	21	18
Opportunity to share in the running of the school	55	24	21
Opportunity for personal growth	62	18	20
Opportunity for intellectual stimulation	47	31	22
Opportunity to do the things I believe I can do well	58	23	19
A feeling of worthwhile accomplishment	52	26	21

undecided (U). Second, they indicated in a similar manner the extent to which the item would have been characteristic of the situation they would realistically have expected, given the present education system. The degree of congruence between pairs of responses was noted. Table 2 summarizes the findings. While care needs to be exercised not to misinterpret the results shown in the Table, the procedures might well be emulated in other studies of job satisfaction. In particular, the scale could be extended and care taken with the coding of data so that more information could be extracted than was done in the Australian project. Furthermore, future studies on job satisfaction should attempt to examine associations between it and characteristics of the school environment and stages in the teachers' career in order to provide insights for counselors, inservice educators and employing authorities.

Innovation In and Evaluation of Induction

An extremely high priority in the matter of induction is to provide more induction activities for beginning teachers. As a consequence of my experiences with the Australian survey, I believe we should be adopting a practical two-pronged attack on the issue. The first is to encourage schools and administrative regions to innovate by establishing different forms of induction activities. The second is to commission groups of researchers to collaborate with the innovators and, at the same time, evaluate the innovations and provide on-going feedback to the schools and regions. When the descriptions of the innovation and its evaluation are formally compiled, they will serve as valuable guidelines for others. However, by that time, practical benefits will have accrued to those schools which have been involved in the project. Of course, the situation is not as simple as I have portrayed it--as those who have been involved in innovation know--there will be many frustrations for the innovators and evaluators and much careful planning will be required. Nevertheless, the combined thrust of innovation and evaluation in induction has, I believe, much to commend it. How projects are to be conducted will depend a great deal on the specific contexts in which they occur; e.g., whether they are school- or region-based, and must be worked out collaboratively among participant evaluators and innovators.

Before I leave the theme of innovation in induction, it is important to refer to at least two other implications from the Australian study. One is that induction should primarily be a school-based rather than region-based activity. There are practical limitations to the extent to which all induction can occur in the new teachers' schools, but, when it can, it is much more effective. The second is that those responsible for induction in schools should be exposed to inservice education programs which will develop their skills as counselors and resource personnel. Too little attention has been given to training experienced teachers to work effectively as counselors and resource persons with other less experienced adults--a situation which must be rectified if the value of induction is to be increased.

Concluding Comments

What has been said in this paper has been fashioned by experiences in an Australian context, but that is not intended to deny the implications the comments have for educators in other nations. Included among the proposals advanced for your consideration were that induction is only one aspect of professional development of teachers; Lacey's concepts of socialization of teachers provides a useful framework for induction studies; more, primarily school-based, induction activities, should be provided; innovation in and evaluation of induction should be accorded a high priority in the future; inservice education programs need to be designed for experienced teachers involved in induction, and researchers could, with profit, emulate some procedures of the Australian Teacher Induction Project, examine the impact of different educational contexts, including Open Plan ones on induction, study new teachers' latent culture and its effects, and document changes in teachers' job satisfaction. There is clearly much to be done.

References

Anderton, J. D. The first two years. A survey of the opinions of recently graduated science teachers concerning the value of their preservice and inservice education in relation to their initial teaching experiences. Curriculum and Research Branch, Education Department, Western Australia, 1976.

Angus, M., Beck, T., & Hill, P. The Australian open area schools project: Some methodological issues in evaluative research. Paper presented at the Annual Conference of the Australian Association for Research in Education, Perth, 1978.

Angus, M., Beck, T., Hill, P., & McAtee, W. Open area schools. A draft report on an Evaluation Study of Teaching and Learning in Primary Schools of Conventional and Open Area Design in Australia, Research Branch, Education Department of Western Australia, 1978.

[Please note: The Open Area Schools report is now available in published form (by the same authors) as A national study of open area schools, ERCD Report No. 21, Australian Government Publishing Service, Canberra, 1979.]

Bolam, R. Induction programmes for probationary teachers. A report on an action research project, School of Education, Research Unit, University of Bristol, 1973.

Bolam, R., & Baker, E. (Eds.). The teacher induction pilot schemes (T.I.P.S.) Project. 1975 National Conference Report, School of Education, University of Bristol, 1975.

Campbell, W. J. Being a teacher in Australian state government schools. Report No. 5, Australian Advisory Committee on Research and Development in Education, Australian Government Publishing Service, Canberra, 1975.

Canning, L. *Burwood State College primary teacher graduates 1976-78. A study of their first three months as teachers in the primary school.* Document produced in Department of Education Studies, Burwood State College, 1978.

Dunkley, M., Biles, J., Doherty, W., O'Connor, C., Payne, C., & Downey, J. *The induction of teachers in the ACT and northern territory. A report to the Commissioner of the Commonwealth Teaching Service*, Canberra, 1978.

Edgar, D. E., & Warren, R. L. Power and autonomy in teacher socialization. *Sociology of Education*, 1969, *42*, 386-399.

Education Department of South Australia. *Teacher induction.* Directorate of Personnel, Publications *Branch, 1978.*

Education Department of Western Australia. *The induction of primary school teachers.* A report of *a study carried out in primary schools of* the Education Department of Western Australia, Research Branch, 1977.

Fyfield, J. A., Taylor, S. M., & Tisher, R. P. *The induction of beginning teachers in Australia.* *Final draft of Research Report on Stage II of the Teacher* Induction Project, Monash University, 1978.

Gasson, I., Otto, E., & Jordan, E. *Perceived problems of beginning primary school teachers.* *Document issued from Capricornia Institute of Advanced* Education, Rockhampton, May, 1977.

Haller, E. J. Pupil influence in teacher socialization: A socio-linguistic study. *Sociology of Education*, 1967, *40*, 316-333.

Hoy, W. K. Pupil control ideology and organizational socialization: A further examination of the influence of experience on the beginning teacher. *School Review*, 1969, *77*, 257-265.

Lacey, C. *The socialization of teachers.* London: Methuen, 1977.

Lawler, E. E. Satisfaction and behavior. Chapter 4 in, *Motivation in work organizations.* Calfornia: Brooks-*Cole, 1973.*

Lortie, D. C. Teacher socialization: The Robinson Crusoe model. In *The real world of the beginning teacher.* Report of *the Nineteenth National TEPS Conference.* Washington, D. C.: National Education Association, 1966, 54-66.

Lortie, D. C. Observations on teaching as work. In E. Travers (Ed.), *Second handbook of research on teaching*. Chicago: University of Chicago Press, 1973.

Lortie, D. C. *School-teacher: A sociological study*. Chicago: University of Chicago Press, 1975.

Mitchell, M., & Chisholm, I. Practice helping the first-year-out teachers. *The Educational Magazine*, 1977, *34*, 33-35.

Owen, J., & Tisher, R. P. Curriculum adoption: The fate of a national curriculum project in Australia. Paper presented at AERA Annual Meeting, Toronto, Canada, March, 1978.

Scriven, B., & Shaw, B. First year teachers--accountable to whom? Paper presented at the Annual Conference of the South Pacific Association of Teacher Education, Canberra, July, 1977.

Tisher, R. P., Fyfield, J. A., & Taylor, S. M. *Beginning to teach, Vol. 1. The induction of teachers: A bibliography and description of activities in Australia and the U.K.* Australian Government Publishing Service, Canberra, 1978.

Union Committee of Enquiry. Report on the needs of beginning teachers. *The W. A. Teachers' Journal*, 1978, *68* (1), 1-10.

A PRACTITIONER'S QUESTIONS ABOUT THE PROCESS OF TEACHER EDUCATION

Christine San Jose
Syracuse, New York

Planning both undergraduate and graduate instruction on campus, we face disturbing questions about what to teach and how. With the bodies for our attention massing, however, we have to agree on at least tentative, temporary plans. Each instructor within a field of interest and expertise sallies forth with some conviction that this and that should be covered and thus and such may be the way to effect understanding and even enable and encourage students to teach as we would like them to. We establish goals for our courses, then refine the steps towards them so that our means, our processes, reinforce our ends. Teaching a language arts methods course, for example, I am aware (from psycholinguistic research) of the aid afforded by writing in sorting out the mind. Therefore, I not only include in the content some information about the role of writing in learning and discussion of classroom implications, I also require students to write extensively and introspect as they do so. For now, I know, I proceed mainly on faith. I need to investigate whether teachers who themselves write extensively cope with this area in the classroom more effectively than those who do not (whatever the criteria for "effectively"). Further, are the teachers who write in the course ultimately more effective if they were working with children during this period and applying their insights as they came upon them? How do gains (if any) compare with knowledge, skills and attitude when working with pupils? Is modeling of writing by the course instructor influential? How do results from learning by doing in this area of teacher education compare with those from learning by doing in other areas? Can we generalize? Or, looking at "delivery systems" more broadly, how do inservice teachers writing in a course pursued for certification compare with those writing in a course/seminar/workshop set up in response to their need for help with pupil writing? Answers would throw much-needed light on the process of teacher education, from the comparative minutiae relevant in planning effective course instruction through to the wider understanding necessary for effective delivery of programs.

Sitting in my office, I speculate on the possible pursuit of these and similar questions, sobered by their scale, but with a fairly clear idea of a viable route of enquiry. Once out of my office, however, and in the schools, I find "process" assuming a quite different aspect in my mind. Whether supervising student teachers, lending beginning teachers a hand, or listening to master teachers' needs, I am overwhelmed with the question: "What on earth is going on here?" We "practitioners" are supposed to be there to help; and to an extent we can, having some experience, some faith, and having done our homework on what is known about teacher education. We have to face, however, that the infinitely complex processes of the teacher at work are still largely unapprehended; so it is difficult indeed to divine the most effective procedure for dovetailing into those processes what we are calling "teacher education." Our position is like that of, say, reading teachers a few years ago. They had the knowledge, skills and attitude attuned by an understanding of different instructional methods and of significant teacher variables but were largely ignorant of the actual processes involved as children learned to read. As research increasingly reveals these processes, obviously, the more nearly can reading teachers fit their instruction to children's needs. The desirability of calibration of the teaching and learning processes is very obvious, in theory; but I venture to labor the point because, in reality, we so often lose sight of it. Indeed, frequently the more knowledgable teachers, the more conscientious, are precisely those who find most difficulty in putting aside preconceptions at least for a while, and opening up to an awareness of the total learner, trying to see through the learner's eyes. The shift in view is uncomfortable because we may too well find ourselves questioning some of our basic assumptions in which we are heavily invested. Doubtless, many of us know some quite admirable reading teacher who is happier behind the scope-and-sequence workbooks and machines than listening, really listening, to a child. I need look no further than home for a teacher educator who would often be happier behind our idea of content and proven "delivery systems" rather than listening, really listening, to the teacher (insofar as we can make out what he or she is saying amidst the hurly-burly of the school).

This, then is the practitioner's frame of mind with which I approached the papers of Drs. Tisher, Dillen and Feiman. You will understand how cheering it was to find the writers not only sensitive to the vast complexity of the terrain out there, but also offering pointers as to how we might begin to map it.

Dr. Tisher--whom I ask to forgive me please for appearing to neglect the richness of what he tells us about induction in picking out just a very few of his more general pointers--suggests where we might look further and in what manner. Interpersonal relationships, he found, were a key factor in the reactions of beginning teachers. This, of course, confirms our intuitions, as does his setting these relationships within the school context. Most suggestive of further study is his recognition of the changing dynamics of these relationships, for example, the interplay among internalizing, complying and attempting to redefine. Please note also Dr. Tisher's terminology when citing our concern for the profession: that it be satisfied, vigorous, and educationally creative. I do not believe for one moment that this reveals Dr. Tisher's lack of concern for teacher effectiveness, our catchword; rather it reveals that he approaches teaching as the complex human endeavor with which, indeed, the practitioner must cope. As for routes of enquiry, the combination and sequencing of diverse strategies, the constant cross-referencing of different viewpoints, and the confidence in and responsibility for one's own work--while remaining genuinely responsive to basic feedback--are surely models to follow.

Dr. Dillon again stresses the personal, again in the context of the school. I would like to take two of her principal references to underscore a couple of key factors in the process of teacher education that I am sure she as a practitioner has as keenly in mind as I. First, reference to Maslow reminds us that conceptions of course objectives, or even of mastery learning, may frequently be inappropriate in ongoing work with inservice teachers--perhaps with all teachers. Our responsibility is to help people as far along as we can; that entails assessing where they are in the first place, and then how hard and fast, in what individual manner, they can progress along a particular path until that process becomes counterproductive. In this connection, we might also recall Dr. Tisher's reminder of the teacher's need to give. Certainly the beginning teacher, newly trained, has much to give; obviously, the experienced teacher also. In between, in my experience, there are few teachers, indeed, who do not have something to contribute, and need to do so if they are to grow. Second, Dr. Dillon's reference to organizational health underscores the poor economics of a narrowly teacher-oriented approach to effecting change in the schools.

To one of Dr. Dillons' points I would add reservation, and that point is her recommendation that inservice "be tied directly to a real situation or problem to the greatest extent possible, will arise naturally from the working environment, and will provide practical, immediately applicable materials or techniques" (No. 4 of her "Characteristics of an Effective Staff Developmental Process"). I wish we had time to discuss this--better, could research it--but my own experience leads me to think that for immediate "effectiveness" that recommendation may perhaps (perhaps) be appropriate. In order to develop the satisfaction, vigor and educational creativity that Dr. Tisher has us rooting for, however, I think we owe the profession in-depth understanding and intellectual challenge.

Teacher "growth and reflection" Dr. Feiman sets as our aims, and poses some searching questions about their nature and nurture. As I promised when she told me what she was going to talk about, I can do little but stand here and say, "Yeah! Yeah!"--with feeling. As we listen to Sharon's persuasive plea, let us not lose sight of two points. First, as she says, though the rhetoric of teacher growth is among us, the reality in teacher education has heretofore been largely unidirectional with programs as packages for delivery. If we do indeed wish to espouse Dewey's philosophy and act accordingly, I may be so bold as to say that we shall have to put forth a great deal more trust, extend a much more sensitive ear, and generally proceed with considerably greater flexibility and less arrogance than we have done. If we are not prepared to do that, then let us stop using the rhetoric. Perhaps in that way, we could at least clarify some of our differences, if not resolve them. Introducing the second point, I will confess that my own somewhat Deweyan approach is probably less humanistic or philosophical than downright pragmatic. Given the infinitely complex variety of teaching, which takes place, moreover, within the even more complex framework of whatever it is that schools are supposed to do overall, there is absolutely no way in which we can hand over to teachers so complete a package, or program them so comprehensively, that they will meet each of the myriad unforeseeable variables rushing upon them with a treatment out of our book. Even in a parent/child relationship--and, heaven knows, the teacher-educator/teacher relationship in no way contains such knowledge and experience discrepancy, though we sometimes proceed as if it did--we know that if the youngster is to cope, what has to be developed is self-reliance. Besides, we are sufficiently imbued with the puritan ethic to believe nothing is more efficacious than everyone's working to capacity! People just cannot do that when they must constantly look elsewhere for guidance, rather than trust and try out their own ideas.

Returning, then, to the practitioner's salient process question of what is going on in the schools, we have the beginnings of a plan of attack with our presenters' suggestions that we look to interpersonal relationships, to school context, to the nature of the teacher's growth. I would like to urge also early exploration of another influence that pervades every aspect of school activity, one which we ignore (as we often do) at our own cost: the root responsibility of the schools as perceived by their diverse constituents and supporters. I suspect we might find that to many involved parties, perhaps even to teachers, teaching is not the *sine qua non* of the schools. Society sets up institutions for its own maintenance; and there are many who would argue that although the maintenance of our society depends to some extent on education--or rather, to put it more bluntly, on the transmission of sufficient skills to run our technological systems of production and distribution--even more does it depend on the transmission of assumed values and patterned behaviors that ensure the smooth continuance of our complex, hierarchical, societal structure. It is in this context that we begin to understand how teacher educators may be in possession of knowledge essential to improvement of instruction, and may transmit it to teachers via a process in accord with everything we have learned about effective delivery, but still fail to influence practice. It just may be that improvement of instruction is not at all times and in all places the teacher's main concern, or the school's, or the district's, or society's.

I would further like to suggest that in at least some areas of enquiry we hold off for a time our missionary zeal. Bent on improvement, we are frequently so eager to identify opportunities for it that we spare scant attention for the wider context of the apparent problem. Might it not be possible, for example, to scrutinize a teacher at work, both in detailed close-up during a day and more generally over a long haul, in such a way that we could tease out--free from the fabric of value judgments--which of the many threads in this particular teaching process derived from where (e.g., whether from preservice training, psychological variables, early schooling, home background, administrative pressure, curricular mandate, inservice workshops and so on and on). At this early stage, we have to take care not to limit or distort our view by tumbling into premature categorization, let alone by rushing to evaluate.

In summary: I think none of us on this panel would call a halt to enquiry into the most effective processes for conveying what we think should be conveyed in teacher education, but I think we are suggesting that we need also to look very closely at what is going on as our students and our colleagues in the classroom go about their business, if we are to dovetail into their processes our efforts to help.

PROCESS SESSION DISCUSSANT REMARKS

Thomas Bettis
Springbrook Elementary School
Kent, Washington

In our discussion earlier in the smaller group, Dr. Ryan, we were discussing how important it would be, as you mentioned, that the preservice that takes place in the university or training institution follow-through with the inservice that takes place in the school district. We would become more consistent in that regard. The pressures you mentioned that are experienced by an undergraduate or teacher trainee are very real. However, I do not think the situation changes. Even as a teacher grows, there are more pressures being placed upon them and upon administrators by legislation and by communities. So, I think the pressures are not unique to the pre-graduate level.

Dr. Dillon-Peterson, I would not squabble with your definition of "process;" I liked it very much. My question would be, "How do you build ownership from your teachers?" If you can have 500 people come out on a fifty-below night, you've built ownership. I would certainly like to know how. Imagine a situation where a cadre of teachers are trained to go out, as Dr. Tisher mentioned. We find -- and we have tried this in our district -- that this cadre of master teachers immediately become "they." "They" are not "us" anymore. That seems a problem. I do not know if it is environment or what it might be.

Dr. Feiman, growth and reflection time is a very scarce commodity. Who has ever taught teachers how to reflect, how to plan? When do you find the time to do this?

With the human cry in the community for accountability from legislators, better test scores, lower budgets, back-to-basics, etc., etc., we have to turn the argument around to society and say, "We can only be accountable for those things of which we have control. We do not have control of how you train your child at home. We do not have control of whether you give them breakfast in the morning or if they come to school hungry; or if they have a good night's rest or if they stay up and watch the late, late movie. I will not be accountable for the things I cannot control."

We are a mirror of society. In essence, we have to mirror this society that we function in or we are not doing our job. I would like to second your support for learning stations. We use them a great deal in the Northwest and find them very useful. Teachers like them. They can be used for remediation of students, for enrichment, for lots of reasons, and can be changed very quickly.

Dr. Tisher, you hit a nerve when you talked about the open-plan school. I have been a principal of an open-plan school for ten years. I second totally the notion that induction should be at the building level. As I told the small group I was working with earlier today, the teachers in my building hire the teachers in my building. I do not. I look at their credentials and talk to them, make sure they have the philosophy that I want them to have for children and for teaching. Then we say, "You must come and spend a day teaching with us. Don't come and observe us; we want to observe you," and they come the next day. We went through 76 teacher observations three years ago before we hired our last teacher. And those teachers, over a cup of coffee and a cigarette, can ask some pretty ornery questions and do some observing. At the end of 76 observations, we sat down as a team--there are four six-member teams in my building. I promised them when we opened the building that I would not override their vote, even though, administratively, I could. They had picked one of the 76 whom I thought was totally inadequate. I said, "Okay, you can hire her, but don't come to me and say, 'Hey, Bettis, we hired a bummer;' I'm going to say, 'Hey, you and I hired a bummer. Now, what are we going to do about it?" But, as it turned out, she is a beautiful teacher, one of the best we've had.

Thank you.

Context

Overviewer

Richard C. Wallace, Jr.

Discussants

Jane Stallings

J. T. Sandefur

Paper Presenters

James B. Boyer

Lou Carey

Carol Lewis

A major conclusion of those involved in classroom research has been that the context within which teachers function is an important influence on their actions and effectiveness. Yet, no comparable studies of the education of professionals has been undertaken. Teacher education does not occur in a vacuum. Rather, it takes place within the heart of our institutional, social, political, economic, and multicultural society. How do these contextual factors affect teacher education? To what extent do school environments affect learning? With what content are various contexts most appropriate? Can these be manipulated in such a way that maximum input can be achieved with minimum resources? Do these vary for persons in different professional roles? What research should be done on the economics of teacher learning and teacher education? From which perspectives should teacher education research address these and other context questions?

In his overview presentation, Dick Wallace, Superintendent of Schools in Fitchburg, Massachusetts, was asked to explore the context variables that seem to have influenced ongoing processes from the prospective of the various jobs he has held--researcher, developer, and practitioner. It was suggested that he should contrast those that were facilitative, restrictive, or in other ways influential.

He was asked to address what was known about context, what information research provided, and what his speculations were about future directions for research. He was asked, "Are there certain aspects of context that should be studied?" "Does present knowledge and understanding of certain social, political, and economic aspects of the context restrict what can be done in teacher education?" "Are there certain research studies that should be done to enlighten our understanding of the significance of context and how to better use it to improve teacher education?"

Specialist Presenter Lou Carey, Director, Research Services, College of Education, Arizona State University, was asked to share her work on the social dynamics of institutions of higher education. She was to develop and describe applications to the more specific area of teacher education and formulate some further questions and issues that could be addressed in future teacher education research. How the dynamics of higher education institutions impact the training of teachers, both preservice and inservice, was seen as an extremely important area for discussion.

Jim Boyer, Professor of Curriculum and Instruction in the College of Education at Kansas State University, was asked to address the multicultural aspects of context in teacher education. Although it was seen as a broad and highly multifaceted topic, he was to present a perspective on the present issues, cite recent research that would be applicable, and focus on suggestions for future research in teacher education that should have multicultural dimensions.

Carol Lewis, Education Policy Fellow with Teacher Corps, U.S. Office of Education, was asked to focus her presentation on what she had found to be some of the political and economic realities within which teacher education must operate and what further questions and issues are raised by these realities that could be addressed in future teacher education research. She was asked, "Does your work suggest that certain 'context' factors should be controlled in teacher education studies?" "Should certain 'context' factors be the subject of study in teacher education research?" The intent of the presentation was to alert teacher education researchers to the present knowledge base and to issues related to various aspects of context to which they should attend.

Discussant Jane Stallings, Manager of Classroom Process Studies at SRI International, has achieved national recognition for her research on classroom interactions and evaluation of new practices. J. T. Sandefur, Dean, College of Education at Western Kentucky University and President of the American Association of Colleges for Teacher Education is an international leader in teacher education. Both discussants have written extensively about teacher education research, practice, and evaluation. They were to critique and elaborate on the prepared presentations from their perspectives.

THE INFLUENCE OF SELECTED CONTEXT VARIABLES ON SCHOOLING

Richard C. Wallace, Jr.
Fitchburg, Massachusetts, Public Schools

Introduction

A multitude of forces operating in our society today --social, political, economic--are presumed to have significant impact on the teaching/learning process in elementary and secondary schools and, thus, have implications for teacher training, preservice and inservice. When one considers the rapid pace of technological advancements that have occurred during the last twenty-five years and the impact, for better or worse, on our society and its educational institutions, it is awesome.

Changes in technology and social policy have often resulted in changes in values held by individuals and groups in our society; no institution--home, school, university, church, government, business, industry--has escaped the force of change in the last quarter century. So numerous are the forces within our society that influence, potentially or actually, the teaching and learning process, they almost defy classification (Charters, 1963). Among the forces are: the onset of Civil Rights; the breakdown of family life; the erosion of moral values; the impact of mass media; the recessions and the decline of the dollar; the protest movement over Southeast Asian policy; the emergence of teacher strikes and collective bargaining for teachers; the increased use of drugs and alcohol by youth and adults; the emergence of the youth culture; the decline of respect for authority; the distain for public officials;

the drama of Watergate.

The above changes represent but a few of the forces at work in our society that influence, directly or indirectly, the process of schooling. Obviously, only a few of these forces can be examined in this paper as they relate to the potential impact on schools and the educational process. The number of potential research studies that could be generated from the study of these forces or the interaction among the forces is almost unlimited.

For the purposes of this paper, the author asserts that teaching and learning processes are complex acts that take place within a complex social institution--the school. It is held, further, that instructors and learners are influenced in some manner, directly or indirectly, by forces present within their local, state, and national environments. However, the manner in which these forces influence the school system and teachers or teacher educators is largely unknown. Thus, to formulate research efforts that will succeed in identifying the linkages that do exist among the contextual forces, teacher behavior and student learning outcomes will be a difficult task.

For the purposes of this paper, three categories of influence on the teaching/learning process will be presented. External organizational influence will focus on the impact that the courts, state and federal agencies, and teacher associations have on the educational process. Four comtemporary social forces will then be reviewed for their potential impact on schooling: drugs and alcohol usage; parental influence; the Back to the Basics Movement; Proposition 13 Fever. Finally, within-school influences of pupils, teachers, principals, and organizational development will be reviewed with respect to their influence on the school as a social system. The primary focus of this review will center on the public schools. Inferences and questions regarding potential research studies for teacher education will be presented at the end of each of the three major sections.

CATEGORY I. THE INFLUENCE OF SELECTED EXTERNAL ORGANIZATIONS

The Supreme Court

The Supreme Court of the United States has been one of the most significant forces influencing education in the past twenty-five years. The decisions of the Warren Court, in particular, deserve attention. The Warren Court has been characterized by VanGeel (1977) as an activist court; he traced the influence of this court with specific reference to the issues of equality of educational opportunity, students' rights, and religion. An activist justice, in VanGeel's terms, tends to view himself and the courts as a vigorous force to improve society and to insure that political and administrative actions are not unprincipled. Needless to say, the Warren Court was active in the pursuit of social justice. The current Burger Court, on the other hand, is perceived as "less active" with regard to all school issues. The tendency of the "less active justice" is to take the stance of a strict constructionist with regard to the constitution; this type of justice is concerned with the potential for chaos or conflict that could emanate from the Court's unyielding insistence on principle.

Among the noteworthy decisions of the U.S. Supreme Court identified by Nystrand and Staub (1978) are: Brown vs. Board of Education that did away with the separate but equal concept of segregated education and ushered in the era of desegregation of the schools; Tinker vs. Des Moines Independent School District which established that schools do not have absolute rights over students; San Antonio Independent School District vs. Rodriquez stated that the solution to unequal educational opportunity caused by unequal ability to pay taxes is the responsibility of lawmakers and not the courts; *Goss vs. Lopez* found education to be a property right of students that must be protected by due process procedures.

The history and continuing efforts at desegregation of schools resulting from the *Brown* decision still have an unfinished agenda, particularly in the cities of the North. School effectiveness studies and Coleman's (1966) controversial study need to be replicated.

The *Tinker* decision gave birth to the "students' rights movement" that has significantly altered the traditional sources of power and authority in the schools. Mawdsley (1978) also believes that *Tinker* has also had a diminishing effect on parental control and student home life as well as school life. The short-term and long-range effects of *Tinker* should be evaluated as they relate to the need for the training of teachers, both preservice and inservice.

The *Mora* decision of the Supreme Court further extended the rights of students with respect to unauthorized search by holding that evidence of probable cause must exist for a student or a student's locker to be searched. This has also had serious effects on the traditional modes of student control in schools.

The influence of *Brown* and *Tinker* on community life as well as on schools, pupils, teachers, and administrators has been enormous. The social and educational changes brought about by these two decisions are worthy of significant inquiry with regard to both broad and specific effects upon schools and the teaching/learning process.

Federal and State Education Agencies

The enactment of the Elementary and Secondary Education Act of 1965 signaled the aggressive entry of the federal government into education as an activist agency. Further enactments of Congress have resulted in the initiation of myriads of programs that sought to strengthen education at all levels. In the 1960's, for the first time in our educational history, the Congress and the Department of Health, Education, and Welfare became forces to be acknowledged because of the investment of billions of dollars in the schools. No school system in the country was left untouched by this federal intervention. However, with funding from these agencies come policies, directives, and sanctions that curtailed much of the freedom previously enjoyed by local school districts. The impact of federal government intervention needs to be fully evaluated with respect to the broad effects it has had on education at all levels.

In recent decades, State Education Agencies (SEA's) have also become influential with respect to the improvement of education. This can be traced to federal government funding that allowed SEA's to expand and upgrade staffing; thus, many state agencies that were considered to be weak and passive have become more powerful and highly active in monitoring the educational process at the local district level. SEA's have also become active in seeking the passage of legislation to implement policies; the promulgation of regulations that both govern and restrict certain aspects of schooling have become increasingly oppressive in recent years. Failure to comply with state or federal regulations places a school system or a higher education institution in jeopardy of loss of all federal funds. Therefore, the force of the impact of the activism of state and federal agencies has influenced the lives of teachers and educational institutions in significant ways that need to be fully explored.

Teacher Organizations and Collective Bargaining

National, state, and local teacher associations have become a force to be reckoned with during the 60's and 70's. The National Education Association (NEA) and the American Federation of Teachers (AFT) and state and local agencies have been aggressively militant in their pursuit of equitable wages and working conditions for teachers. Teacher strikes, while decreasing in recent years, have created turmoil in communities throughout the country. The inherent management-labor conflict that exists in industrial unionism is present in the relationships among teachers, administrators, and school boards. Teacher militancy has pitted teachers against principals, thus completely changing the traditional cooperative relationship that had existed in American education until the mid-60's. The posture taken by NEA indicates that teachers will continue to be more militant and aggressive in asserting their rights to participation in the policy-making areas of education at the national, state, and local level.

Whether or not the lack of trust between teachers and administrators promulgated by teacher union officials can be replaced by mutual problem-solving for the improvement of education remains to be seen. Christie (1973) believes that the most positive change resulting from teacher militancy has been a forced change of the paternalistic attitude held by administrators toward teachers. If paternalism can be replaced by shared decision-making, perhaps teacher militancy and administrative response can be channeled into constructive action. The impact of teacher militancy on the teaching/learning process and the organizational capabilities of the school needs to be studied. Further, the involvement of parents' and citizens' groups in the collective bargaining process should be explored.

Category I. Some Researchable Questions

What are the effects of the Brown decision, twenty-five years later, regarding actual desegregation of the schools in the South? The North? How and in what ways has desegregation affected career patterns of youth who experienced desegregated schooling? What has been the effect of desegregation on minority and majority community life and educational aspirations? Has the proposed increase in minority student achievement and in self-esteem been realized as a result of school desegregation? What inferences can be drawn from the desegregation effort regarding the selection and training of teachers?

In what specific ways has the students' rights movement altered the distribution of power and the teachers' role in secondary schools? What effect has the students' rights movement had on students' sense of control over their environment? Is there a relationship between students' rights and increased student self-esteem? What is the relationship between the students' rights movement and the decline of respect for authority in the schools? In the culture? What classroom management skills do secondary teachers need to cope effectively with disruptive students?

What are the demonstrable effects of federal programs in the schools? What perceptible benefits to teachers are observable/measurable from federal program intervention; what are the results of cost-benefit analyses of federal programs? In what observable/measurable ways have federal government program improvement produced specific benefits to learners? Teachers? Teacher educators? How has PL 94-142, requiring mainstreaming of special needs students, affected teachers' attitudes and classroom behavior? How can teachers be prepared to assimilate special needs students in regular classrooms?

Has collective bargaining actually influenced the classroom instructional behavior of teachers? In what specific ways has "life in classrooms" been influenced by collective bargaining? What personal-social-professional characteristics influence teachers to take teacher union leadership positions at local, state, and federal levels? What are the lasting effects of teacher strikes on schools and communities? In what ways has teacher militancy altered the following: the public's perception of teachers? the students' perception of teachers? teachers' self-perception? administrative and school boards' perceptions of teachers?

CATEGORY II. THE INFLUENCE OF SELECTED EXTERNAL SOCIAL FORCES ON SCHOOLING

Many other social and cultural forces operating within the broader society have impacted on the schools in ways that directly affect the lives of students and teachers. In the brief overview that follows, it is impossible to do justice to any one issue. The following sources of influence are judged to be among the most significant and will be reviewed: drugs and alcohol usage, parental influence, Back to the Basics, and Proposition 13 Fever.

Drug and Alcohol Usage

The increase of drug and alcohol usage by youth in our culture has reached alarming proportions. All levels of education, from the elementary school through the university, have been affected. Drug and alcohol use by students also embraces all socioeconomic classes in our society.

It is difficult to ascertain the prime causes of increased usage of drugs and alcohol; however, they are present in and around the school environment on a daily basis. Most junior and senior high school teachers and administrators deal with problems of drug infiltration, drug use, and drug overdose on a daily basis. The turbulence or the passivity that is caused by student use of drugs as it relates to the teaching/learning process is in need of study.

Parental Influence

A significant amount of research exists relative to the influence of socioeconomic status on the achievement motivation of students. In a review of research, Spady (1973) cites that the value climate of parents who esteem academic achievement have a positive impact upon the dominant character of the peer group value system. It is also likely that student peer groups create conditions within the school environment that affect the teachers' ability to use or not use his/her own skills and normative resources effectively. Spady points to consistent evidence in most studies reviewed that the achievement levels of both Black and Anglo students is maximized when the average classroom contains a large portion of middle-class Anglos.

The rise of divorce in the American culture and its effects upon children with respect to their schooling is in need of study. With an increasing lack of stability in family life, Tye and Novotney (1975) suggest that teachers may be required to spend more time in the future providing a counseling function to students with a corresponding decrease in the amount of time allocated to the teaching function. We need to examine the implications of the change in family life for teacher education.

The emerging role of women in the working world is also likely to affect family life when compared to the role of women in past generations. The emergence of both male and female single-parent families is another phenomenon that needs to be examined in terms of the impact it may have on children and consequently on the teaching/learning/counseling process.

Back to the Basics Movement

Following the expansionist decade of the 60's in education where a multitude of innovations were introduced in the schools, due in large part to federal government funding, the 70's have witnessed a strong conservative trend. Perhaps the most identifiable recent issue related to this movement is the issue of competency testing for high school graduation. The interesting thing about this movement, as Pipho (1979) notes, is that it was started by the "man on the street." In three short years, the movement has resulted in over thirty state legislatures enacting competency testing laws. These actions reflect the society's concern in declining SAT and achievement scores and the broad problem of functional illiteracy of many high school graduates.

The competency testing movement is a direct communication to educators from the public that it is unhappy with the current state of learning in the schools. The regulation that will follow competency legislation to enforce and monitor competency laws will have direct effect on the process of schooling and the responsibilities of teachers and administrators to insure that students are capable of demonstrating mastery of basic skills of communication and computation before graduating from high school.

Proposition 13 Fever

Since the passage of the Jarvis-Gann initiative in California in early 1978, the "tax revolt" movement has spread like a brush fire across the nation. Fanned by angry home owners whose property taxes pay for a substantial portion of local education, proposed cutbacks or limitations on local spending will probably emerge from state legislatures; this movement is likely to have serious consequences for education. Just how and in what ways the movement will affect the teaching/learning process is unknown at the moment. However, where the public has the opportunity to directly influence educational spending through bond issues or tax referenda, there is sufficient evidence to believe that education will be seriously affected. We are in for difficult days ahead unless local, state, and federal governments find more equitable ways to finance education with specific avoidance of the past reliance on the property tax as the prime source of revenue at the local school district level.

Embedded in the Proposition 13 movement is an underlying lack of confidence in public education. Lack of discipline in the schools, increased vandalism of school property, teacher assaults, grade inflation, lowering of standards and lowered achievement scores in general have been cited by parents and critics as evidence that the schools are not doing the job.

Category II. Some Researchable Questions

In what ways has the increased use of drugs and alcohol influenced the life goals and aspirations of youth? In what ways has student use of drugs and alcohol affected teacher classroom behavior? What implications does this have for preservice and inservice training of teachers? What relationships, if any, exist among the following: increase in drug usage; increase in youth crime and vandalism; increase in venereal disease among youth? What relationships exist among the aforementioned problems and student disruptive behavior in schools? What information and skills do teachers need to cope with student disruptive behavior? What are the implications of student disruptive behavior for teacher preparation and selection?

What is the relationship between decrease in family stability and increase in student disruptive behavior and vandalism in schools? What knowledge and skills do teachers need in order to deal with student behavior resulting from unstable family life? What personal characteristics in prospective teachers are required to relate to student needs for more personal relationships at the secondary level? What type of inservice training is required to enable teachers to relate effectively to students from unstable family backgrounds?

What are the attitutes of teachers toward the "Back to the Basics Movement?" What knowledge and skills must be acquired by secondary teachers to implement competency testing and basic skills improvement programs? How and in what ways will the competency testing movement affect curriculum and instructional emphases in the schools? What positive and negative effects is the basic skills and competency testing movement likely to have on teachers? What characteristics of teachers are associated with effective basic skills instruction?

How will school programs and instructional practices be affected by tax limitation initiatives? How will state and federal mandated instructional programs be influenced by spending limitations imposed by local and state elected officials?

How and in what ways will teachers reconcile parents' demands for stress on academics and discipline and student needs for empathetic understanding and personal counseling?

CATEGORY III. THE INFLUENCE OF SELECTED INTERNAL FORCES ON TEACHING IN THE SCHOOLS

Within the school environment itself, the interactions among pupils, teachers, administrators, and support personnel have a direct impact on the teaching/learning process. The size of the school, its organizational arrangements, the socioeconomic level of students, the ethnic and religious background of students, the rural, suburban or urban character of the school all interact significantly, according to Lortie (1973), to influence the teaching/learning process in ways that are not always predictable or fully understood.

In this review, the following internal influences will be examined: pupils, teachers, principals, and organizational development.

Pupil Influence

Pupils influence the teaching/learning process by the disposition, the motivation, and the prior knowledge and skills they bring to the classroom. In turn, pupils are influenced by the peer culture, the climate of the school and the classroom, and the manner in which they are treated by adults in the learning environment.

Much has been written about the alienation of today's youth in general and their hostility toward the authority figures in the school. Spady (1973) contends that the custodial-control function of the school is the chief source of strain and potential conflict; other sources of tension include the selection process used to track students into different levels of ability and the certification function that ultimately results in the award of a high school diploma. Alienation may also stem from the traditional ways in which schools operate. Much of the reward system in today's secondary school favors the high achieving, highly motivated student who is also active in the extra-curricula affairs of the school. Students who are unwilling or unable to achieve satisfaction through these means tend to withdraw into alienated subcultures.

The alienated youth in secondary schools tend to be the most rebellious, tend to engage in more acts of vandalism and assault teachers. Too often these youth find solace only in the company of their frustrated peers; there is a tendency on their part to seek escape through the use of drugs and alcohol or the psychological or physical withdrawal from school.

Green (1973) states that for lower class Anglos, Blacks, Chicanos, and other minorities education has not become the great equalizer that it has for other groups in our culture. What often emerges among these youth is that school becomes a place where they can find a sense of identity with others of their age and status cohort. A counterculture tends to emerge that often reflects a hedonistic preoccupation with self-satisfaction and the creation of a small scale alternative life style that further removes these youth from the mainstream of school and society.

Among middle and upper-middle class youth, another phenomenon occurs as described by Spady and Adler (1974). These authors point out that overly permissive childrearing practices and lack of stability in home life often result in the lack of development of inner resources in students that are necessary to survive effectively in an academic culture. Lack of the inner resources of competitiveness, willingness to delay gratification, willingness to work to comply with the strict demands and the expectations placed upon them by others, handicap these youth in their ability to cope with the school environment.

The behavior described above is well known to secondary teachers in today's schools. They need advice and techniques that will allow them to cope more effectively with students that they try to teach.

Teacher Influence

It is generally concluded that most teachers in our culture come from the middle ranges of the socioeconomic strata in our society. Often cited are the clash in values between middle class teachers and students who come from lower socioeconomic classes. The expectations that middle class teachers have for the behavior, language use, attention to learning, and the sanctions and rewards used often differ radically from those values held by students. Often, teachers are not equipped with the understanding of student subcultures and their values nor are they equipped to deal with the overt rejection of their authority by students.

Spady (1974) contends that teachers must first find ways to establish rapport with students by projecting a concern for them as individuals; he advises teachers to develop a sense of security and confidence in pupils before attempting to impose or legitimize control mechanisms or achievement expectations. The key variable that appears to influence potential student achievement, according to Spady, is the ability to project empathy and concern; this is likely to promote the conditions for voluntary compliance by students and increase the likelihood of learning. However, perceived empathy must be combined with a role model of teaching excellence in order to achieve maximum results. In a similar vein, Green (1974) notes that the development of a positive self-concept in Black students is the key variable in increasing the likelihood of academic achievement of Black students.

Dreeban (1973) cautions us to remember the fact that teaching, by and large, is a self-directed and isolated process. With all the uncertainties and unpredictabilities that are inherent in the culture and its students, the teacher is likely to be more of a reactive agent than a proactive agent in managing the learning process. This means that a teacher must be able to respond quickly to the constantly changing events in the classroom.

Influence of Principals

There is no question in the mind of the author that the key variable that differentiates among effective, marginal, and ineffective schools is the role model of the principal and the positive perception of that role by the faculty. A series of studies conducted by Williams, Wall, Martin and Berchen (1974) confirms this finding.

Critical to the effective functioning of the school is a caring and supportive posture projected by the principal for his/her faculty. To the extent that the faculty perceive this, they tend to be mutually supportive and capable of working together effectively to achieve both personal and institutional goals. The principal who places institutional goals above personal concerns for faculty achieves less productivity from his/her faculty and is perceived less favorably.

Leadership ability is critical to the effectiveness of the principal. The successful principal knows when to intervene aggressively with faculty and when to withdraw; he/she knows how to organize productive meetings, how to share decision-making and how to provide feedback to staff. The powerful principal, described by Liberman (1973), uses a mixed set of strategies depending upon the condition encountered within the school at a given time. A judicious use of strategies combined with an expressed concern for each faculty member tends to make the school a dynamic place for faculty and students.

Students similarly respond to a principal's leadership. They respect and respond to a caring approach that is combined with a fair and consistent application of an explicit set of behavioral expectation of all students.

Organizational Development

In the past ten years there has been an attempt to apply principles of social psychology used effectively in industrial settings to improve the organizational effectiveness of schools. Schmuck, Runkel, Miles and Getzels, among others, have been active in research and development activities of this type. Organizational Development (OD) places a premium on the development of organizational health as manifested in problem-solving capabilities of a school faculty. The school, not individuals within it, is the unit of analysis and the object of the effort. OD specialists intervene with training programs, data feedback, confrontation, and process observations to provide faculty with the skills to become effective problem-solvers. Among the competencies that they seek to develop in faculties are the following: increasing communication effectiveness, improving goal setting, uncovering and working with conflict, improving group procedures, making decisions. The goals of Organizational Renewal (OR) for schools are similar to the goals of OD.

The research findings of Schmuck and Runkel (1977), Schmuck and Miles (1971), and Williams, Wall, Martin and Berchen (1974) indicate that OD and OR techniques do create in school faculties the ability to adapt to change and engage effectively in school improvement activities.

The general shortcoming of OD and OR research to date is the inability to relate faculty effectiveness to increased student learning on a broad scale. The researchers cited above acknowledge that the ultimate criterion for success must be direct benefits to students. This remains to be demonstrated.

CATEGORY III. Some Researchable Questions

What teacher characteristics interact positively with empathetic approaches to students from different socioeconomic levels? What predictor variables are most highly associated with effective teaching behaviors with secondary school alienated youth? How can these predictor variables be used in screening teachers for training and placement? What classroom instructional/counseling techniques are positively related to enhanced self-concepts in students from minority groups? How can preservice and inservice training experiences be organized to assist teachers in providing effective personal interactive skills with alienated youth? What personal-social characteristics of teachers are required to interact effectively with students' lack of "inner resources?" What types of parent effectiveness training programs can be implemented in schools, colleges and adult education programs to enhance the development of "inner resources" in public school students? What types of teacher training experience, pre- and inservice are likely to produce teachers who can communicate effectively with alienated youth? How can secondary teachers be trained and retrained to provide a balanced empathetic and academic role model for youth?

In what ways is expressed teacher job satisfaction related to effective teaching behavior? Can organizational development and organizational renewal strategies be directly related to student achievement outcomes?

In what specific ways is the effective principal role related to changes in teacher classroom behavior? What inservice teacher training experiences are likely to dispose teachers to participate effectively in organizational development activities in schools?

Conclusion

The problem of which social forces operating in the culture at large are most potent with respect to their influence on teachers, the teacher/learning process, student learning and teacher training is a speculative question at best and will likely remain so for some time. Until researchers, practitioners, and theorists are able to identify and agree upon specific and precisely defined variables and identify the functional relationships that exist among them, little progress can be made in the attempt to assess the pervasive influences of social forces in education.

The lack of a comprehensive theory that would account for social force variables and their interactions in the school environment is a serious disadvantage. The general lack of appropriate research methodology, cited by Herriot and Muse (1973), to determine school effects is another serious disadvantage.

One area of social influence that shows promise as a prototype for study is the issue of competency testing. Documentation as to the origin of this issue as a social force is recorded by the Education Commission of the States. The direct impact on teachers with respect to their responsibilities and teaching requirements is relatively straightforward with respect to basic communication and computation skills. The ultimate effect on student learning is also within the reach of test and measurement specialists. Thus, we may have in the study of competency testing a prototype study that could cast a light on the problems and the prospects of an attempt to trace the influence of a social force, through the teacher to teaching/learning process to the student.

References

Charters, W. W., Jr. The social background of teaching. In N. L. Gage (Ed.), Handbook of research on teaching. Chicago: Rand McNally, 1963.

Christie, S. B. Beyond teacher militancy: Implications for change within the school. In C. M. Culver & G. J. Hoban (Eds.), The power to change: Issues for the innovative educator. New York: McGraw-Hill, 1973.

Coleman, J. S., Campbell, E. Q., Hobson, C. J., McPartland, J., Mood, A. M., Weinfield, F. D., & York, R. L. Equality of edcational opportunity. Washington, D.C.: U. S. Office of Education, 1966.

Dreeban, R. The school as a workplace. In R. M. Travers (Ed.), Second handbook of research on teaching. Chicago: Rand McNally, 1973.

Green, R. L. Northern school desegregation: Educational, legal, and political issues. In C. W. Gordon (Ed.), Uses of the sociology of education. 73rd Yearbook of the National Society for the Study of Education. Chicago: University of Chicago Press, 1974.

Green, R. L., et. al. Research and the urban school: Implications for educational improvement. In R. M. Travers (Ed.), Second handbook of research on teaching. Chicago: Rand McNally, 1973.

Herriot, R. E., & Muse, D. N. Methodological issues in the study of school effects. In F. N. Kerlinger (Ed.), Review of research in education (Vol. 1). Itasca, Ill.: Peacock, 1973.

Liberman, A. The power of the principal: Research findings. In C. M. Culver & G. J. Hoban (Eds.), The power to change: Issues for the innovative educator. New York: McGraw-Hill, 1973.

Lortie, D. C. Observations on teaching as work. In R. M. Travers (Ed.), Second handbook of research on teaching. Chicago: Rand McNally, 1973.

Mawdsley, R. D. Constitutional rights of students. In C. P. Hooker (Ed.) The courts and education. 77th Yearbook of the National Society for the Study of Education. Chicago: University of Chicago Press, 1978.

Nystrand, R. O., & Staub, W. F. The courts as educational policy makers. In C. P. Hooker (Ed.), The courts and education. 77th Yearbook of the National Society for the Study of Education. Chicago: University of Chicago Press, 1978.

Pipho, C. Minimum competency testing in 1978: A look at state standards. In E. F. Reidy & R. C. Wallace (Eds.), Critical issues in competency testing: Proceedings of the 1978 NESDEC conference on competency testing. New England School Development Council on Education, in press.

Schmuck, R. A., & Miles, M. B. Improving schools through organizational development: Overview. In R. A. Schmuck & M. B. Miles (Eds.), Organizational development in schools. Palo Alto, Calif.: National Press Books, 1971.

Schmuck, R. A., Runkel, P. J., Arends, J. H., Arends, R. I. The second handbook of organizational development in schools. Palo Alto, Calif.: Mayfield Publishing Co., 1977.

Spady, W. G. The authority of the school and student unrest. A theoretical exploration. In C. W. Gordon (Ed.), Uses of the sociology of education. 73rd Yearbook of the National Society for the Study of Education. Chicago: University of Chicago Press, 1974.

Spady, W. G. The impact of school resources on students. In F. N. Kerlinger (Ed.), Review of research in education (Vol. 1). Itasca, Ill.: Peacock, 1973.

Spady, W. G., & Adler, C. Youth, social change, and unrest: A critique and synthesis. In C. W. Gordon (Ed.), Uses of the sociology of education. 73rd Yearbook of the National Society for the Study of Education. Chicago: University of Chicago Press, 1974.

Tye, K. A., & Novotney, J. M. Schools in transition: The practitioner as change agent. New York: McGraw-Hill, 1975.

VanGeel, T. Two models of the supreme court in school politics. In J. D. Scribner (Ed.), The politics of education. 76th Yearbook of the National Society for the Study of Education, Part II. Chicago: University of Chicago Press, 1977.

Williams, R. C., Wall, C. C., Martin, W. M., & Berchen, A. Effecting organizational renewal in schools: A social system perspective. New York: McGraw-Hill, 1974.

THE ESSENTIALS OF MULTICULTURALISM IN THE CONTEXT OF TEACHER EDUCATION RESEARCH: A PROJECTIVE OVERVIEW

James B. Boyer
Kansas State University

Perhaps more than any other aspect of the characteristics of American education, concepts of multiculturalism have had difficulty gaining both academic respectability within teacher education and within the context of instructional delivery in public elementary and secondary schools. Not only has the topic been misused, misunderstood, and understudied, it has been rejected as a critical entity because it forces us to re-examine so many of our practices, policies, and research endeavors. Varying definitions have permeated the professional literature and attention to these definitions has consumed much of the energy which might have been employed in program regeneration and implementation. It should be remembered, however, that the academic researcher and the American teacher (including teacher educators) were all socialized in the context of our society which is plagued by many of the problems of economic, political, educational, social, and moral decadence described a decade earlier in Teachers for the Real World, the summary of our problems which was published by the American Association of Colleges for Teacher Education. Considering this, the context of schooling today is characterized by realities which not only seem unfamiliar to the traditional teacher education researcher, but which reflect difficulty in declaring relationships essential to the thrust of multiculturalism in American education.

Two concepts must be mentioned, however, before we identify the direction of this discourse: the first is the use of the term, context. Historically, context has been defined as "parts of a discourse surrounding a passage which can throw light upon its meaning." Often, statements repeated "out of context" can completely distort the meaning or reverse it. The use of context in this paper is designed to build a framework within which instructional delivery takes place--and within which teacher education research may be conducted which would recognize and respect the essentials of multiculturalism in American education. Context, then, directs attention to the setting within which our intellectual efforts emerge. That setting does influence the quality, characteristics, nature, extent and impact of those efforts.

The second concept is multiculturalism. At this point, our definition will be limited to the following: multiculturalism is the specific, intentional inclusion of knowledge, concepts and perceptions of persons and entities of non-European ancestry into the curriculum, research framework and instructional delivery systems of schooling in America. (Instructional delivery systems include policies, practices and content emphasis of schooling at every level with full recognition that these mold the attitudinal and cognitive growth patterns of persons in our society.) Later, we shall elaborate on the dynamics of multiculturalism and cite the reasons for its existence and impact.

Purposes of This Paper

Within this document, three basic purposes will be attempted in an effort to summarize and list selected key elements of concern which might influence some of the research projected for teacher education. In an effort to explore issues in teacher education with implications for research (specifically research related to multiculturalism), the following aspects are included:

(1) The citing of selected recent research and theoretical bases involved with the concepts of multiculturalism in American education.

(2) Making contributions to an expanded (but operational) definition of multicultural education designed to be useful to researchers, classroom practitioners, and educational policymakers.

(3) The citing of pressing issues and concerns related to multiculturalism which warrant serious future research attention within teacher education--with some reference to priorities among these.

Within the last few years, the concept of multiculturalism within academic circles has gained in momentum as a natural progression from segregation to desegregation to integration. Anxious to move from the mere removal of caste system legislation to deeper, more comprehensive intellectual behaviors, the academic community moved to legitimatize its efforts related to the social context of research and creative endeavor. Thus, the concept of multiculturalism emerged with accompanying implications, inferences, and conclusions germane to teaching, teacher education and academic research.

Multicultural Research Activity: A Selected Overview

Because the birth of multiculturalism emerged from the racial/ethnic overtones of school desegregation, much of the early research efforts associated with multiculturalism resulted in stilted studies comparing Caucasian achievement with that of non-Caucasian learners at every conceivable level of public education. These were not only demeaning to the full legitimacy of teacher education research, but they served no real purpose and did little to promote the racist notions of those conducting the studies. Hopefully, we have begun to move from those studies to a more legitimate thrust of human dignity, academic honesty, and research integrity. Aside from the brief mention to two studies (St. John, 1970; and Yawkey, 1973), relating to pupil achievement and pupil attitude, our emphasis shall be on studies which examine the institutions of higher education which prepare teachers, or on substantive studies of content with implications for teacher training and pupil growth as total human beings in a racially diverse society. Nancy H. St. John complied studies (reported in the Review of Educational Research as far back as 1970) suggesting that following desegregation, subjects generally perform no worse, and, in most instances, better. Desegregation in Washington, D.C., brought an upgrading in educational achievement and in Louisville, it gave a psychological boost to teachers. Thomas Yawkey (1973) found that reading and discussing selected multiethnic social studies materials by the teacher with an urban white early childhood class indicated a statistically significant attitude change (with seven year olds) in a direction favorable to the American Black.

Researchers like James Banks, Carl Grant, Jane Mercer, and Robert Williams have all attacked institutional practice regarding multicultural entities, and their work is widely known. The classic work of Hunter (for the AACTE) related to multiculturalism and competency based education, though never given the attention by the academic community which it warranted, stands on its own as a piece of research loaded with implications for future effort. In another vein, research with a more direct set of implications for teacher education include the following: Ronald Lantaff's study (1975) of the desegregated curriculum as perceived by elementary teachers in the Midwest found that some teachers perceived multiculturalism as a compensatory effort in those cities where large numbers of minority learners were enrolled. This limited perception calls for immediate attention to the preparation programs which graduated these experienced and recently inducted teachers. In 1977, the Association for Supervision and Curriculum Development (ASCD) Multicultural Education Commission cited several strategies for encouraging multicultural education in public schools. Myrtly Ricard Johnson's study (1974) of ethnic diversity in language and literature instruction in secondary schools found that teachers at the secondary level had not been given extensive help in this dimension, either by the preservice programs or their workshop-inservice experiences.

Elnora Osborne Roane, in 1974, investigated the perceptions of teaching reading to culturally different Black children and found a reluctance on the part of reading teacher educators to acknowledge the challenge of cultural diversity in reading instruction.

Mack Henington (1978) studies the impact of intensive multicultural instruction on preservice secondary teachers and found a significant difference in the knowledge level between the control group and the experimental group both immediately following the treatment and several weeks later.

Yvonne Luster (1977) studied the college reading programs serving reluctant readers at the initial collegiate level and found that materials employed in the teaching of reading had tremendous impact on motivation and achievement.

Joseph Fuller (1977) completed an historical study of Black American contributions to the fields of science, medicine, invention, and technology and discovered new insight into the marriage of science and history in addition to numerous scientific facts which had previously been grossly underemphasized.

David Washburn's study of multicultural curriculum practices in Pennsylvania schools revealed a gradual movement away from Black studies to multiethnic studies with a variety of courses being offered to Pennsylvania secondary students.

Frederick Harris (1978) studied the collegiate social science experiences of students in historically Black colleges and found that perceptions regarding their usefulness for improving the plight of the Black community was average, but his study stimulated the thinking of social science divisions regarding their academic/social responsibility. (Social science divisions are responsible for much of the core curriculum of teacher education.)

Wilma Longstreet's (1978) research (Aspects of Ethnicity) provided new insight into the magnitude of observational techniques as functional research tools. Our preoccupation with traditional research methodology has left a void in the rich quality of action research which can emerge from ethnically diverse school settings. Longstreet employed the observational technique extensively in her research.

Milton Kleinpeter (1975) studied the use of multiethnic materials by science teachers in three states and discovered a tremendous reluctance to even consider such factors as part of scientific responsibility in instructional delivery.

Sandra Williams (1978) studied the inclusion of minority literary authors included in the English programs of departments preparing teachers in English and drew her sample from AACTE-approved institutions. She found very little awareness of and usefulness of Mexican-American authors, Black authors, and Native American authors. Some of the responses actually considered such research effort and inclusions to be of sublevel significance in the preparation of English teachers.

Andrew Edwards (1978) studied the curriculum of schools of social work regarding their inclusion of ethnic minority content in the preparation of social workers (for an informal comparison with teacher education programs) and found very little such activity. He did find, however, that larger cities (presumably where there was a larger minority enrollment) tended to have greater involvement in such course activity with social workers.

Robert L. Williams edited an issue of the Journal of

Afro-American Issues (1975) devoted entirely to testing, measurement, and Afro-Americans in which numerous inferences were made regarding the institutional racism which permeates the testing industry and the academic community whose overconcern with test scores by minority persons on "essentially racist test instruments" would require a conference call to itself.

Barbara Bacon Epps (1977) studies the teacher education programs of early childhool teachers in historically Black colleges and found limited laboratory experiences being provided. She also found growing interest in expanding these programs, many of which had recently reached the point where states would certify carly childhood teachers.

The above studies, many of which are drawn from dissertation abstracts, suggest a trend in the direction of more substantive multicultural research because of their relationship to the teacher preparation institutions and because their recency reflect what teacher education practitioners agree to permit candidates to pursue as their initial research effort. Certainly this trend is not full scale with teacher educators, but with the National Institute of Education, with the multicultural thrust of the American Association of Colleges for Teacher Education, with the National Alliance of Black School Educators, and the Association for Supervision and Curriculum Development--research practice will elevate itself from the limited focus of comparison studies to a broader, functional state through which insight may be gained for the design, the focus and the results of future teacher education research.

Toward an Expanded Concept of Multicultural Education

Because the notion of multicultural education has so many ramifications, we have elected to confine our concept to relationships to teacher education which is the source of curriculum content for public schools--and that curriculum becomes the basis for decisions of persons who are acculturated through it. Initially, we restrict our definition from education to curriculum. This is because "education" (as a concept) is so broad that it is difficult to refine its borders and limitations. Our use of the term, curriculum, suggests that our reference is to that part of the school's program which is planned, measurable, coordinated, designed, and which we expect the school practitioner/teacher/administrator to articulate, implement, evaluate, and refine. Such a component (curriculum) includes the transmission and analysis of values reflecting cross-cultural emphasis. It further incorporates the utilization of instructional techniques which foster respect and appreciation for persons who are racially or ethnically different from each other. Finally, it seeks the enhancement of human awareness which recognizes and utilizes the Black experience, the Spanish speaking impact (as well as other bilingual combinations), and the Native American (Indian) dignity within the daily interactions of a culturally pluralistic school program.

Multicultural Knowledge

The multicultural curriculum is designed to broaden the knowledge base of learners regarding practices of stereotyping and discriminating reflected through the historical exclusion of this data (cognitive data) about non-White Americans. Such knowledge includes:

(1) Knowledge of persons/groups who made contributions to our culture whose identities were non-European. This is now extended to include minorities and women.

(2) Perspectives of persons/groups whose ideas, perceptions and attitudes were historically omitted from the decision-making settings on economic, educational, political, and social matters.

(3) Understanding of issues and problems affecting those groups who are ethnically different and economically less able than the majority of American citizens.

(4) The heritage of even more groups whose psychological survival in America has depended on having role models, images, and patterns from which to build their career lives and personal lives.

At the same time that such knowledge is being shared, there must be an equal commitment to the original goals of multicultural education: the elimination of racism, sexism, elitism, and related social ills which plague our country. Without reservation, multicultural curriculum accepts the challenge of its role to reduce conflict, enrich the lives of culturally different people as well as others, and to serve as a change agent for the educational hierarchy which controls research and practice.

Multicultural Studies

> The anthropological concept of culture is extremely broad and includes the physiological, psychological, sociological dimensions of a group of people. Multicultural studies are those instructional sequences which attempt to reflect the totality of American culture, not through assimilation, but through acculturation. They address themselves to both the similarities and differences among people within the framework of equal respect for these traits. (Boyer & Boyer, 1975)

Why are these concepts referred to as multicultural studies? We hold the theoretical basis that there is a (1) culture of poverty, (2) a culture of middle income "western civilization" Caucasian socialization, (3) a culture of non-European, non-western, non-middle income lifestyles, and the list is much longer. It should be pointed out, however, that these same notions are treated under other headings or titles: multi-ethnic, non-sexist education; urban education; minority studies; cultural pluralism; bilingual-bicultural studies; and occasionally--studies of ethnology, studies of ethnicity; studies of ethnocentrism. In still other settings, these efforts are handled completely by traditional social science researchers and treated as any other cultural variation. To be sure, there are differences but they are beyond the scope of this paper.

Research Issues to Be Addressed (Re: Multiculturalism)

Part of the complexity of treating teacher education research has evolved from the academic community's limited concept of research activity. There is still fierce commitment to the traditional experimental studies which compare ethnic/racial identities. Needed research must include the following designs and/or categories:

(1) Action research on the multicultural knowledge level. Such studies would attempt to increase the basic knowledge level of researchers regarding the interaction of people who are different from each other.

(2) Historical research designed to re-direct the monocultural historical thrust of teacher education. Such studies would explore the nature of content (see Joseph Fuller, 1977).

(3) Theory building research designed to explore new theories which employ a different perspective on similar issues. [For example, the Robert L. Williams (1975) studies on testing drawn from the perspective of diverse researcher identity.]

(4) Creative research on multicultural topics in the humanities. There is particular need for creative research in the Arts, Music, Drama, Film, Poetry, Dance, Folklore, Literature and Communications. These areas have great impact on teacher training related to value declaration (as well as clarification).

(5) Experimental research (not to determine achievement in traditional matter) but to determine changes in total perspective--particularly employing longitudinal studies.

Teacher education changes slowly, but direct research effort which attacks the institutional practices as well as the substantive content emphasis of monocultural education will help to redirect public education. It is strongly felt that teacher education is the seed for the American curriculum. We have experienced a teacher education curriculum (both pre-professional and professional) which has been essentially racist, sexist, and elitist. There has been academic racism, institutional racism, and scholastic elitism. (We have deliberately de-emphasized sex discrimination in teacher education in this paper. It is our hope that it is treated elsewhere in these documents.)

High Priority Research Needs (Re: Multiculturalism)

Considering the triple roles of teacher education (preservice, induction, and inservice), it is difficult to prioritize research needs. However, the issues are so numerous that we listed our priorities from within the framework of widespread "curriculum bias" and "instructional discrimination," hoping to reduce and eliminate both. Our priorities for institutional studies as well as individual studies follow:

(1) Studies of authorships of required textbooks in teacher education experiences. How much basic literature is there compared to authentic literature?

(2) Studies on images presented of various profiles in teacher education materials. Such studies have been undertaken by the Council on Interracial Books for Children and other groups--for public school textbooks. College books need the same kind of studies.

(3) Studies on specific disciplines for their identities of multi-ethnic, non-sexist entities. Re: Name two Black playwrights, two Mexican-American historians, two Women scientists, two Native American writers, and two Puerto Rican politicians.

(4) Studies on practices and collections of teacher education libraries. How monocultural are the holdings? To what extent do teacher education learners get exposure to culturally pluralistic writings and professional literature?

(5) Studies on cross-racial, inter-ethnic, and other relationships within the teacher education context. The subtle nature of racist, elitist behaviors and their impact on teacher education candidates.

(6) Studies on cross-racial motivation to excel in teacher roles as well as the nature of trust relationships (preservice, induction, and inservice).

(7) Studies on the impact of "being a minority" in a teacher education setting. Some institutions still do not consider this a critical essential for training even in student-teaching experiences. Cross-racial teaching and learning are realities of the 1980's.

(8) Studies on practices of media programs, media centers, learning centers and the impact of visual imagery in teacher education programs.

(9) Studies on "quality control techniques" in teacher education programs. These "appear" to be fair and equitable strategies for maintaining high quality teacher personnel in NCATE-approved programs. The actual practice is deceiving.

Toward New Research Designs and Authenticity

Summarily, the essentials of multiculturalism in research include: (1) new perspectives on research design, (2) broader thrust on teacher education research topics--to include topics which further analyze the institutions in which teachers are prepared, (3) continued theoretical constructs which tie the dimensions of our social/academic relationships together--employing the dynamics of school desegregation, curriculum desegregation, affirmative action, equal employment opportunities and like factors in the development of these theoretical constructs. There must also be serious research effort directed at the administrative/policy making relationships which exist in teacher education contexts--and the impact of these relationships on subordinate level instruction and evaluation.

Not every aspect of these issues will lend itself to traditional research effort. Many will have to emerge from totally new ideas, designs and procedures. Particularly urgent is the need for new levels of authenticity within teacher education which would employ ethnically diverse researchers in teacher education research.

References

American Association of Colleges for Teacher Education. Teachers for the real world. Washington, D.C.: The Association, 1969.

Association for Supervision and Curriculum Development, Multicultural Education Commission. Encouraging multicultural education. Educational Leadership, January 1977, 34(4).

Boyer, J. B. Racial integration and learners from limited income families (An essay for American Educators). Manhattan, Kan.: Mid-West Educational Associates, 1979.

Boyer, J. B. Teaching the economically poor. Prospect Heights, Ill.: Waveland Press, Inc., 1979.

Boyer, J. B., & Boyer, J. L. (Eds.). Curriculum and instructional after desegregation. Manhattan, Kan.: Ag Press Publishers, 1975.

Boyer, J. B., Walters, R., & Harris, F. M. Justice, society and the individual. In J. J. Jelinek (Ed.), Improving the human condition: A curricular response to critical realities. 1978 Yearbook of Association for Supervision and Curriculum Development. Washington, D.C.: 1978.

Carpenter, D. *A study of the selected ethnic theatrical experience incorporated in the theatre programs of American colleges and universities*. Unpublished doctoral dissertation, Kansas State University--Manhattan, 1977.

Edwards, A. W., Sr. *An investigation of ethnic minority content in accredited master's level social work curriculum programs in the United States*. Unpublished doctoral dissertation, Kansas State University--Manhattan, 1978.

Epps, B. B. *A descriptive analysis of curriculum offerings in early childhood education at predominantly Black colleges and universities*. Unpublished doctoral dissertation, Kansas State University--Manhattan, 1977.

Fuller, J. W., III. *The contributions of Black Americans to science with implications for science in secondary schools*. Unpublished doctoral dissertation, Kansas State University--Manhattan, 1977.

Harris, F. M. *An investigation of reactions of Black collegiate students to selected social science curricular experiences*. Unpublished doctoral dissertation, Kansas State University--Manhattan, 1978.

Hunter, W. A. (Ed.). *Multicultural education through competency-based teacher education*. Washington, D.C.: American Association of Colleges for Teacher Education, 1974.

Henington, M. G. *The effect of an intensive multicultural and non-sexist instructional sequence on secondary student teachers*. Unpublished doctoral dissertation, Kansas State University--Manhattan, 1978.

Johnson, M. R. *An analysis of ethnic diversity in language and literature instruction in secondary schools*. Unpublished doctoral dissertation, Kansas State University--Manhattan, 1974.

Kleinpeter, M. *A study of teachers' perceptions of the use of multi-ethnic instructional materials in secondary school science*. Unpublished doctoral dissertation, Kansas State University--Manhattan, 1975.

Lantaff, R. J. *An investigation of the desegregated curriculum as perceived by certified elementary teachers in eight midwestern states*. Unpublished doctoral dissertation, Kansas State University--Manhattan, 1975.

Longstreet, W. *Aspects of ethnicity*. New York: Teachers College Press, 1978.

Luster, Y. J. An analysis of freshman students' reactions to collegiate reading improvement programs at ten traditionally Black colleges and universities. Unpublished doctoral dissertation, Kansas State University--Manhattan, 1977.

Roane, E. O. A study of perceptions of teaching reading to culturally different Black children. Unpublished doctoral dissertation, Kansas State University--Manhattan, 1974.

St. John, N. H. Desegregation and minority group performance. Review of Educational Research, February 1970, 40(1).

Washburn, D. Multi-ethnic education in Pennsylvania. Phi Delta Kappan, April 1978, 59(8).

Williams, S. A. An analysis of the preparation afforded prospective english teachers in multicultural literature by selected collegiate english departments. Unpublished doctoral dissertation, Kansas State University--Manhattan, 1978.

Williams, R. L. (Guest Ed.). Testing, measurements and Afro-Americans (entire issue). Journal of Afro-American Issues, Winter 1975, 3(1).

Yawkey, T. D. Attitudes toward Black Americans held by rural and urban White early childhood subjects based upon multi-ethnic social studies materials. Journal of Negro Education, Spring 1973, 42(2).

A FRAMEWORK FOR IDENTIFYING FUTURE RESEARCH QUESTIONS RELATED TO TEACHER EDUCATION IN THE UNIVERSITY CONTEXT

Lou M. Carey
Arizona State University

A cursory review of teacher education literature demonstrates that research in the context of the university has taken a multitude of directions. Given the variety of types and volumes of research that exist, it would appear to be useful to develop a framework from which future research can be systematically generated, rather than simply to summarize or classify existing works on the influence of university contextual elements on teacher education. Therefore this paper will propose a structure through which research questions can be systematically identified.

The context of the university, as used in this paper, means the operational elements of the university that can and do affect instructional programs. These elements include such considerations as funding, political and social environments, and resources. This broad definition will become operational in following sections of the paper.

There are different approaches one can take to identify research questions that are relevant to education in the context of the university. One approach would be to isolate the elements that make up a university context and try to analyze them. This static approach would lead to very broad, global research questions that might well lack a strong data base; e.g., surveys of the role of various teachers and administrators, or course sequences. These studies are useful in helping educators understand generally what they are doing, and they often provide helpful information.

Another approach to identifying new research questions would be to analyze the relationship between elements of the university context and desired or imposed college goals. This second, more dynamic approach recognizes the evolutionary change that colleges continually undergo. In this paper, the dynamic approach to developing a framework from which research questions can be identified will be explored.

First, a general framework for analyzing university context elements together with college goals will be offered. The framework will help ensure that research questions proposed are not focused in specialized areas that are only currently popular. Second, the framework is used as a basis to develop a detailed example of contextual research questions in one selected area of teacher education.

General Framework

Benefits. There are several benefits to using a framework to consider contextual research questions in teacher education. One is that researchers are compelled to focus on broad areas of operational issues rather than on those that are now in favor or promoted by special interest groups. Another benefit is that contextual issues relevant to teacher education programs are analyzed as they relate to goals or directions in the programs. Using this dynamic approach, the evolutionary nature of the teacher education discipline is stressed. When operating procedures are analyzed in relation to college and teacher education goals, the way in which they interact becomes clearer. An analysis of operational procedures and program goals illustrates the scope and complexity of identifying relevant research questions relating to the university context of preservice and inservice education.

Constraints. There are also constraints involved in using a framework to help identify research directions. In order to discuss the context of educational programs in the university, both operating elements and program goals are described in categories. The categories selected are often not all inclusive nor are they necessarily discrete. Regardless of these limitations, categories are used to enable a discussion of research questions using an organizational framework. Each category is not presented as definitive but rather as a brief list for exemplary purposes.

Contextual elements. The two primary categories of information used to compare interactions and identify research questions are the contextual elements of operating universities and the program goals of a college. These elements include all those considerations necessary in the business of operating an institution. Some specific examples of these elements are the organizational and governance structure of the institution, personnel policies, administrative philosophies, revenue generation and allocation, and facilities. Table 1 includes the general framework used to analyze research directions for teacher education. The general context elements associated with an institution are listed in the column at the left of the matrix in this Table.

The second category of considerations to be compared is teacher education program goals. There are many goals that could be listed in Table 1; however, only a few are included here as examples. The nature and scope of the goals included in the matrix will vary with the particular college using the framework to identify research directions. Sample program goals included for this analysis are: (a) increased relevance in teacher education, (b) accountability for both skills of graduates of teacher education programs and skills of faculty directing teacher education programs, (c) increased relevance in the teacher certification and recertification program, and (d) effective use of technological advancements in teacher education both to increase learning efficiency and to lower the costs of

TABLE 1

A Framework for Analyzing Contextual Effects on Change in Teacher Education Programs

Context Elements	Program Goals in Teacher Education				
	Relevance of Teacher Education to the Job of Teaching (Field Based Programs)	Accountability of Classroom Teachers Educated in an Institution and the Faculty Who Trained Them	Certification of Classroom Teachers and Promotion Within Teaching and Other Education Related Jobs	Application of New Knowledge, the Integration of Existing Knowledge, and Implementation of Technical Advancement	Etc.
Personnel					
Facilities					
Material and Equipment					
Budget					
Organizational Structures					
Time					
Standard Operating Procedure					
Philosophical Orientation					
Political Climate					
Etc.					

instruction.

To focus on research issues that illustrate the interaction between program goals and contextual elements of the university, find the point at which the two intersect in Table 1. The blank spot at the intersection can be filled with unanswered questions about how best to operate the institution to either facilitate or hinder the acquisition of program goals.

Research questions can be identified through a review of how context elements affect the college in reaching its program goals. Examples of information that might be obtained through research are the directions from which pressure comes to change program goals; whether the university appears to enhance, hinder, or redirect changes in programs; information about the consequences for current operations brought about by the teacher education department moving toward new goals; and information about how current university politics affect progress toward achieving goals; e.g., direction, pace, costs, performance.

All kinds of research methods are necessary to explore emerging research questions into the effects of the university context on its educational programs in the college of education. There is a need for experimental research at both basic and applied levels. Comparisons of different procedures for effectiveness in terms of time, money, performance, and attitudes must be made. Status research is required to identify what colleges want to do, what they are currently doing, and how they might better achieve or change their instructional program priorities. Action research that can illuminate conditions, priorities, treatments, and provide new insights into interpreting data obtained in the field with a variety of role groups is called for. Evaluation is needed to identify program goals, design and monitor operating procedures, and assess resources, processes and products achieved with a particular teacher education program. Policy research can be useful to examine the potential impact of changing university policies on college goals and vice versa.

The task of researching university influences on instructional programs is great. The work required in this field of research is not limited to those who currently consider themselves researchers. There is research work for all of us who are involved in planning and understanding teacher education in the context of the university.

Detailed Example

Although the model proposed is generic, when it is used by a particular college of education, the questions generated at the intersect are institutionally specific and not necessarily generalizable. There are many questions that could be included at each intersecting point. One detailed example of the generation of research questions, using the proposed framework, may illustrate how to focus on questions that relate teacher education program goals to the context of the university.

The teacher education goal selected for use in the example is the movement from university centered preservice and inservice teacher education programs to decentralized or field-based programs. This move is basically supported by the desire of educators to make the education of teachers more relevant to the task of teaching. The movement toward field-based programs was selected for this example because it is a general goal of colleges throughout the country. Additional federal and state money is being invested in universities to design and deliver more relevant teacher education programs. The addition of external funds to regular college budgets creates more pressures on colleges. The goal of moving teacher education programs to the field to increase their relevance is not shared with equal enthusiasm by all faculty members or administrators within a college, or by institutional administrators within a university. As a result, field-based programs are often launched without adequate research into the effects the current university context will have on them. Because of the rapid move into the field, the area of field-based programs in universities should be rich in contextual research questions for the next several years.

There are three major components included in the example in Table 2. The first is the general operational elements such as personnel and facilities that are associated with most institutions. They are listed in the first column in Table 2. The second component is included in column two, and it includes specific topics of each general operational element. For example, personnel elements that are important in the context of the university are personnel selection, promotion, and tenure practices. The third component in column three includes sample research questions that relate to the interaction between the college program goal, field-based programs, and the university context elements of personnel and facilities.

Several observations can be made after studying the detailed example of the framework for identifying research questions. The first is that for every general institutional operating element that is identified, there are a number of contextual considerations that impact the element in a university setting. In the area of personnel there are many contextual elements that affect selecting and retaining faculty, administrators, and staff members who work in field-based teacher education programs.

A second observation is that when specific institutional context elements are considered relative to the goal of moving teacher education to a field base, research questions are raised for each element. The sample questions presented in the example in Table 2 are but a few of those that came quickly to mind.

Another observation is that the research questions posed can all be broken into more specific questions. Consider the questions related to the general practice of

TABLE 2

Research Questions Relating University Context Elements to the Teacher Education Program Goal of Developing More Relevant Programs

		College Goals in Teacher Education
		Develop More Relevant Teacher Education Through Field-Based Preservice and Inservice Teacher Education
Context Elements	University Context for General Considerations	Example Research Questions
Personnel	Selection	How can school district personnel be effectively used in the administration, planning, implementation, and assessment of field-based preservice and inservice programs?
		How can advanced students in graduate programs be effectively employed in R&D, instruction, evaluation or management in field-based programs?
		What skills and attitudes are needed by CoE faculty to design, develop, and deliver teacher training programs in the field?
		What criteria should be used to hire CoE faculty to design, develop, deliver, and assess field-based teacher education programs?
	Promotion	What are the various facets of working in a field-based program: research, development instruction, consultant, management, evaluation, communication, and public relations?
		Is there a natural sequence in learning and refining tasks related to being a faculty member in a field-based program [e.g., (1) instruction, (2) assessment, (3) development, and so forth] and should promotion be based upon excellence in all areas at once or in some prescribed sequence of areas?
		Are current college and university promotional schemes at odds with learning to become an excellent field-based CoE faculty member?

	Tenure	Are experienced or tenured faucity members interested in field-based programs?
		Are there any facets of field-based programs that interest tenured faculty (design, development, research, evaluation, delivery, management)?
		What facets of field-based programs are most disliked by tenured faculty?
		Are the skills of tenured faculty keeping up with needs and developments in field-based programs?
Facilities	University	What university facilities are needed to support field-based teacher education programs (e.g., library, computers, institutional research capability, scheduling, data processing, placement, recruiting, etc.)?
		How can university facilities be tapped for maximum benefit to field-based students, faculty members, and administrators?
	College	Of what benefit are college classrooms, laboratories, and other instructional areas to field-based programs?
		How can college facilities in data processing, management, counseling, remediation, advertising, and recruitment be used to maximize college potential?
		How should existing college space be divided to maximize use of space for research, design, development, program delivery, program evaluation for field-based programs?
	Schools	What facilities can be tapped in one or more districts to house R&D, evaluation, instruction, observation, administration, etc.?
		Do instructional centers exist or can they be designed in a school district or districts?
Materials and Equipment	Research, Development Instructional, and Administrative Materials and Equipment	What materials and equipment are available in the university and college that is transportable to field-based programs?

(continued)

TABLE 2 continued

		College Goals in Teacher Education
		Develop More Relevant Teacher Education Through Field-Based Preservice and Inservice Teacher Education
Context Elements	University Context for General Considerations	Example Research Questions
(Materials and Equipment continued)	(Research, Development, Instructional, and Administrative Materials and Equipment continued)	What materials and equipment (e.g., radio, television, computers) can be used to link resources in the university with one or more school districts?
		What are the relative costs of delivering field-based instruction using various mediums compared to embarking CoE faculty into the field?
		What instruction is as effective using instructional delivery systems other than faculty members?
		What is the best mix in terms of learning performance between CoE faculty, school district personnel, and remote instructional delivery systems?
		How can material and equipment employed in other types of decentralized training (military, industry) be effectively adapted to field-based or decentralized instruction in teacher education?
Funding Formulas		Is the current procedure for determining college funding as appropriate for field-based programs?
		Are there ways in which preservice and inservice students can work in school settings (internships) that will offset part of the costs of their instruction?

		How will declining enrollments, less FTE's and, therefore, less faculty members affect the capability of the college to have role differentiations among researchers, developers, instructors, evaluators, public relations persons, and administrators in field-based programs?
Budget	Temporary Money Through Grants and Contracts	What temporary grant or contract monies are available to help design, develop, implement, assess or administer field-based programs?
		Are any parts of the programs more fundable than others (e.g., special interest groups, legislation, political or social highlights)?
		How can all existing monies be used to exercise a balanced program (e.g., FTE funds for some parts of the programs and grants and contract funds for other parts)?
		How can funding be programmed so that consistent funds are available for field-based programs (e.g., long-term contracts with school districts for preservice or inservice instruction, centers, personnel, facilities)?
Organizational Structures	University Organization	Should professional schools within a univesity have the same of differing structures/requirements than liberal arts schools, and how do these requirements affect field-based preservice and inservice programs?
		What organizational structure is used by schools of law, engineering, medicine, and business, and how does the CoE structure compare with them?
		Does the Dean of the CoE have adequate power in the university structure to obtain decisions that will enhance the development and growth of field-based programs?
	College Organization	Does departmentalization within a CoE enhance or hinder field-based programs?
		What departments should be responsible for what functions in a field-based program?
		Should interdisciplinary teams of faculty members be formed to oversee and conduct field-based instruction?

(continued)

TABLE 2 continued

		College Goals in Teacher Education
		Develop More Relevant Teacher Education Through Field-Based Preservice and Inservice Teacher Education
Context Elements	University Context for General Considerations	Example Research Questions
(Organizational Structures continued)	(College Organization continued)	Should an interdisciplinary team be responsible for both preservice and inservice instruction in a given center or area?
		How should field-based programs be organized so that initial observation, block programs, student teaching, follow-up evaluations, and inservice programs are not isolated and fragmented?
		Does the administrative and power structure within a CoE benefit through more or less fragmentation among departments, centers, and programs geared toward field-based programs?
Time	Annual Calendar	How does the current university and school district(s) calendar help or hinder field-based programs?
		How much time should a student spend in a particular segment of a field-based program (e.g., limited, unlimited to mastery)?
		Can the time requirements of field-based programs be changed for mastery, interest, and relevance and still be relatively compatible with the university calendar?
		How much time should a preservice or inservice student spend in acquiring basic information and skills, and how much time practicing and refining skills in a field setting?

Standard Operating Procedures	Professional Roles of Faculty	Should CoE faculty be autonomous and exercise their own academic freedom to determine what instruction to include and when to include it in a field-based program?
		Should individual CoE faculty members establish relevant knowledge and skills needed by teachers or should others in the college and school districts have relevant input into instruction and acceptable standards for students?
		Should CoE faculty be expected to be researchers, developers, instructors, consultants, and writers? Are they?
		What should CoE faculty prestige be based upon in field-based programs?
	Student Selection, Promotion, Certification	Are lowering enrollments going to mean lowered admission standards, similar standards, or raised standards in colleges?
		How can standards, promotion, and graduation best be defined and managed in a field-based program?
		How does the idea of student selection and standards translate to inservice education? Are there entry requirements?
		What content or levels in inservice qualifies as remediation, undergraduate, or graduate (advanced) instruction?
	Accreditation	How does participation in field-based programs affect the credibility of the CoE in the university?
		How does participation in field-based programs affect the credibility of the CoE with accrediting agencies?
Etc.	Etc.	

college faculty selection. Selection practices will influence the skills, interests, and number of faculty members available to plan, design, develop, implement, assess, and administer field-based teacher education programs. There are many traditional, social, and political factors related to the selection of new faculty members in the college. Some of these factors are imposed by teacher education departments, some by colleges, and still others by the university. Do current teacher selection practices provide faculty members who have expertise in field-based programs or who are even interested in working in field-based programs? What are the benefits and constraints of current selection practices on building and maintaining a field-based program? What are the options of a department or college in removing existing constraints in selection procedures? To build and maintain the ideal field-based program, what would be effective selection practices? What are the short- and long-range implications for personnel if faculty selection practices are changed? These are but a few of the questions that come to mind when pondering the effects of faculty selection on the program goal of moving teacher education programs more into the field. Each question at each intersect appears to mushroom in the same manner.

A further observation is that for each research question, current operational practices already exist, and these existing practices can be classified as either constraints or resources for accomplishment of the program goal. Sometimes the same contextual element appears to be both a constraint and a resource for different facets of the field-based program.

Conclusions

The research questions that are presented at each issue intersect of Table 2 are for the purpose of illustrating the many kinds of questions that can be raised related to only one goal in teacher education. Once questions are identified, selecting priorities among contextual areas for immediate research is an activity that must be carefully undertaken. The decision about which contextual areas are most critical for immediate program planning will no doubt change from institution to institution, department to department, and educator to educator. Pressures from inside and outside the university will change contextual research priorities.

Contextual elements cannot be researched as discrete because changes in one area will affect operations in another area. Changes in enrollments will change budgeting levels and money allocation procedures. Changes in enrollments and budgeting will affect faculty selection procedures. All contextual areas appear to overlap with other contextual areas. The systematic nature of contextual elements in universities confounds research efforts and the ability of educators to attribute correct causes to observed changes in the progress of a college toward achieving stated program goals.

To confound research efforts more, changes in the progress of the college toward a particular program goal affect not only the status of that goal but also that of other goals as well. Advances in technology will help determine the speed, spread, and effectiveness of decentralized teacher education programs. Technological advancements will affect the ability of the college to become more accountable for the students it graduates into teaching and for the skills of faculty members. Interactions between different program goals in teacher education provide still other research areas that will fill several lifetimes of relevant research opportunities.

Changes in program goals and contextual elements reveal a remarkable number of relevant research topics for teacher education. The large number of systematically generated topics and areas where research is needed indicates a wide variety of required research methodologies to provide enlightened information to teacher educators. Finally, the scope of the research job to be done highlights the fact that all teacher educators must become active researchers in their areas of interest and operation.

A DISCUSSION OF POLITICAL AND ECONOMIC REALITIES IMPACTING UPON TEACHER EDUCATION RESEARCH

Carol Lewis
Teacher Corps, Washington, D.C.

This paper will address a number of political and economic realities which contribute to the present context in which planning for teacher education research much occur. This is a broad topic, and in order to meet the time and length requirements of the conference, I have selected what I perceive as several dominant political and economic forces impacting on decision-making for education personnel development today. My comments will focus on these, while recognizing that they describe only a portion of the total political and economic context in which we work. My thoughts are influenced by my most recent experiences, in state and federal education agencies, and my own interests, which are in inservice school staff professional development.

Collaboration

The use of collaborative approaches to decision-making for educator training has been influenced by both the Teacher Corps and teacher centers federal legislation. The bringing together of a variety of role groups to discuss and reach consensus on programs and policies for both preservice and inservice professional education is becoming more common at local, regional, and state levels.

In some instances these are advisory groups, sharing ideas and perspectives to improve planning. In other situations they are legislatively authorized professional practices commissions or licensing boards, determining certification and teacher preparation program requirements. We are in a period in which school staffs--particularly classroom teachers speaking through their professional organizations--are insisting upon an active role in decisions related to the preparation, certification and continued professional development of education personnel. Collective bargaining, which has directed most of its attention to economic issues, will move rapidly into curriculum and staff development arenas as a period of fiscal austerity closes other avenues of negotiation.

The movement toward the creation of collaborative structures for such decisions has brought about in some states a highly charged political atmosphere. There is need for attention to an orderly and systematic approach to collaboration that allows time to develop and practice skills in reaching agreement among persons from varying perspectives and interest groups.

The implications for education researchers of this emphasis on collaboration are several: First, certainly there is the suggestion--often the compelling need--for information and processes to assist representatives of diverse groups, which may have a history of adversarial and competitive relationships, to learn ways to communicate, to negotiate, to come together on common goals. There is much to be studies in the experiences of collaborative projects such as those of Teacher Corps and of the Urban/Rural School Development Program in designing and putting into operation collaborative structures for teacher education decision-making. Research which analyzes successful and unsuccessful experiences and suggests factors and influences which helped to determine the degree to which the structures were viable would benefit other programs moving in this direction, whether through choice or mandate.

There is evidence that staff development programs involving community and staff working together have improved school morale, increased school staff commitment, raised the quality of inservice and positively affected student achievement (Joyce, 1978). The continued growth of the federal teacher centers program, which has generated so much excitement and interest among teachers, is dependent upon the sharing of information that will strengthen the very difficult task of collaboration. The bringing together of persons from multiple role groups with differing interests and priorities in an effort to reach common goals is among the most political of activities. It is appropriate and timely that a conference such as this one is devoting a significant portion of its agenda to a discussion of collaboration.

Secondly, researchers who are not already including an active role for education practitioners in all aspects of research activities need to look again at their plans. Problems related to school and classroom learning situations can be sharpened and proposed solutions made more feasible if practitioners are involved in research design. The work of the Institute for Research on Teaching and of the Far West Lab in recent years has included the teacher-researcher profitably. Teachers often are more willing to address negative aspects of classroom situations and of teacher or student behaviors than are researchers from outside the system, and an active teacher role can help to ensure that data is collected and followup activities occur. The inclusion of teachers, administrators and bureaucrats as participants in discussions such as this expands the kinds of dialogue possible and permits the sharing of ideas from a variety of perspectives.

Teacher associations are becoming more vocal in urging this involvement as well, with a recent issue of a teacher association state newsletter including an article urging every classroom teacher to become an educational researcher (Furst & Cruise, 1978).

Probably the most important reason for collaboration in research planning lies with the recognition that educational research cannot resolve teaching and learning problems. It can only help to identify them and describe the implications of various proposed solutions. Decisions related to the selection of solutions and the appropriate actions to be taken are not made by researchers, but by policy makers, administrators and practitioners in federal and state agencies, school districts and classrooms.

The need to improve communication among these groups --researchers who develop knowledge and practitioners who use it--is critical, and the responsibility for making that linkage is with those of us here. We cannot leave it to someone else. If school people are to know of research which can benefit the ways in which their schools are organized and programs operated, if researchers are to be aware of and responsive to the needs and concerns of educators in classrooms and buildings, they must find ways to talk with one another.

Usefulness of Research Data

Continued support of the educational research community will become increasingly dependent upon its ability to contribute to program improvement at the building level. Research must be related to the real world of class sizes, collective bargaining, community goals, financial limitations, and increased demands upon schools to fulfill a variety of roles in the lives of children. There is room--and need--for many kinds of research, directed at various aspects of schooling and learning. But the educational research community must also assume the responsibility of looking at the role of translator/linker. Researchers must work to ensure that pivotal research moves beyond the reporting of findings and into the development of recommendations and implications for educational decision makers. There is need for the preparation of dissemination strategies which say "Here is what this research study suggests to us; this is what it may mean to you as you plan and administer school programs; here are some ideas you should consider." The format used by two recent studies should be examined by others for possible adaptation.

A study of problem solving in urban schools, part of the NIE project on Documentation and Technical Assistance in Urban Schools, discussed theories of organizational change in schools in relation to the capabilities of schools to solve problems locally. The study described the complexity of the change process in this setting, listed skill and condition variables and then went on to identify and highlight specific knowledge and skills the authors believes necessary for a school to reach a sustained problem solving capacity (Runkel, Schmuck, Arends & Francisco, 1978).

Similarly, a study carried out cooperatively by a university and a state department of education examined changes in schools coincident with changed student achievement. That research report concluded with recommendations for consideration by the educational community of actions which might be taken by local school districts and the state education agency to improve student learning and performance (Brookover & Lezotte, 1977).

The approaches illustrated here take one more step beyond the summary of research and help to draw together ideas, information, theory and educational practice.

We need more examples like the Teacher Corps project in New Hampshire, which translated foundation-supported research on the teaching of writing into a university-provided staff development program for junior high school teachers. Evidence of our ability to relate research findings to education personnel development programs which address classroom problems successfully must be spotlighted for decision makers and made readily available to practitioners.

There is need for a conscious effort and approach which helps to make it possible for those who need to know to find out. That dissemination strategy must include interaction among those seeking information and those with knowledge to share. To the building administrator concerned about declining student reading achievement scores, or the group of elementary teachers wanting to improve the social studies program, the vastness of literature related to teaching effectiveness and problems of accessibility and usefulness can seem overwhelming. The ERIC Clearinghouse on Teacher Education currently lists 3,273 citations of documents and journal articles related to effective teaching. For 1,863 of them, effective teaching is the major focus.

Research studies have often seemed remote from the problems of schools and have had minimal impact on what happens in school buildings and classrooms. The potential for increased impact lies in our ability to develop a closer relationship between schools and research. Studies "on site" delving into local district problems and a new role as problem solver which places the researcher into direct contact with building administrators and teachers may help to narrow the gap between research and practice. A number of universities are moving in this direction now, particularly in relation to inservice activities, and the model of an "Educator Support Team" of higher education personnel who work closely with a district or building, which is being tried at Western Michigan University, has potential for research as well as inservice.

The push for educational accountability evidenced in the demand for competency based programs, demonstrable student performance, and emphasis on basic skills has significance for educational researchers and program administrators, for we too must be able to demonstrate that our work is useful, meaningful, and contributing to school improvement and student growth.

Communicating with Legislators

Practical, realistic and useable research data is important to another group of critical decision makers as well. Legislators at both the state and federal level are looking for programs that matter--those that make a difference to school staff and students, research which can give them guidance not only in evaluating the effectiveness of programs and policies now in place, but in pointing directions for improving school organization and educational practice. The legislative posture is increasingly one of fewer dollars, or the same dollars, and increased evidence that funds are well spent with demonstrable showing of program impact.

As educators interested in exploring new programs and expanding promising ones, we must be able to interpret our experiences, plans and problems to lawmakers and budget officers in ways that are realistic and straightforward, to be able to make clear to them those things which are reasonable expectations for which we can be held responsible, and those which are not yet attainable. We need to learn to provide the information they need, in ways and formats which can be understood, to help them make their decisions. And when new legislation is put forward, whether it is related to teacher centers or other aspects of school staff development, we need to know at the outset what types of data will be expected to demonstrate the value of those new programs. We need to listen well to understand the perspective and priorities of legislators and the kinds of information they are looking for. And certainly, we must involve legislators as well as practitioners in planning for research.

The AERA is currently conducting interviews among Congressional staff of key committees which work with education issues. The interviews are designed to gather information on the usefulness to legislative staff of various types of research and evaluation, to identify types of information needed and wanted not presently readily available, and to pinpoint key steps in the legislative process and relate those to types of information which would be helpful at each step. Questions of the usefulness and validity of research in relationship to other influences on legislative policy will be explored, as well as perceptions on format. As lawmakers expand their influence over the direction and nature of education programming it becomes increasingly critical for us to understand the processes, points of influence and perspectives of the legislature--to educate ourselves, to learn to understand how we can work with these policy makers to educate them to the constraints and possibilities of what we do.

Limitations on Funding

At a time when education's portion of the public budget is not growing, is continually threatened, we need to do a better job of speaking with one another, as educators, to maximize the degree to which we are able to target our priorities, to minimize the competition between programs for limited funds.

The present tone of restraint in public funding will have a particularly devastating impact on education programs if educators persist in unrealistic and competitive requests for funding. In one recent state legislative session, education interest groups from urban education, career education, academically talented, middle schools, school psychologists and social workers and job placement programs, requesting new or greatly expanded funding, triggered a legislative response that "educators can't get together on what they want . . ." and encouraged several key lawmakers to suggest that funds should be directed away from education and toward programs and agencies better able to identify priorities and target minimal resources.

Tax limitation proposals adopted or under consideration by voters and legislators in many states not only restrict the expansion of public funding, but often determine the nature of programs to be funded by directing that state mandated and court-ordered activities receive full funding, or that the proportion of funds allocated to certain programs remain fixed. The full implications of these limitations upon the decision-making ability of legislators in relationship to the state budgetary process are not yet clear. But there is no question that fiscal restraint at both the state and federal level will be the dominant tone for at least the next several years.

And in many states, the last item determined in the state budgetary process is the appropriation for education. The flexibility of education's funding has made it possible to use that portion of the budget as the variable to balance the total budget, with the result that education frequently takes the brunt of funding cuts.

For instance, in Michigan, education's portion of the total state budget dropped from 49 percent to 40 percent in a six year period. Human services programs increased from 35 percent to 44 percent in that same time period, which included a severe recession in the state's economy. The resulting need to adjust the outlay of state funds to respond to high unemployment, increased demands for social services programs and diminished state revenues necessarily drew from resources previously targeted for education. It is a pattern which will undoubtedly be repeated again, and is complicated by social and economic factors which further influence state budgetary decisions. Almost ten percent of Michigan's 1978-79 budget is earmarked for funds for the state retirement systems. One percent is appropriated to state colleges and departments of education.

Educators must recognize that their portion of state and federal budgets will not continue to grow, and that as government spending is reduced, we as a profession must adjust to that change and bring our planning into a period which necessitates better use of all resources and thoughtful attention to what is most important.

Coordination

In a period when resources available to us are stable or declining, it is imperative that we examine more closely our existing programs for ways to coordinate and interrelate them, for methods of using the experiences and knowledge of one to strengthen another. We are just beginning to untangle the multiplicity of categorically funded programs which include training and personnel development components--programs targeted at certain curriculum areas or specific populations of educators and/or students. Understanding what we have in the way of programs and funding sources for preservice and inservice training must be the first step in a concentrated effort to improve coordination.

The May 1978 report of the National Teacher Development Initiative listed 21 federal programs with education personnel professional development components (Smith & Feistritzer, 1978). In Michigan we identified seven more programs with state funding. Local school districts, particularly larger urban districts, can often add to that inventory staff development related to districtwide goals or curriculum changes, and sometimes court-ordered training tied to desegregation activities. Monies to support staff development exist, but the picture is one of many spinning wheels which rarely work together to move the machinery in any coherent and organized fashion. In fact, these compartmentalized activities may be competing for the teacher's limited time and energy, for, while they are numerous, they are directed toward a limited number of educators. Figures suggest that only a very small percentage of total school staff are involved in these categorical professional development programs--the National Teacher Development Initiative projects 1%.

The fragmentation, duplication and inflexibility of much of this activity presents an almost overwhelming challenge to the creativity of the building level or central office administrator seeking to bring order and focus to programs. These programs have potential for assisting school buildings and districts to meet their professional development needs, but can do so only as we learn to orchestrate them better, as we examine them closely for patterns of commonality in purpose and participants.

The continuation of targeted programs from the federal level seems a certainty, fed by the desire to identify and address concerns not being met at the state and local level, and by the demand for specific and measurable accomplishments. "Targeted programs are built by, and then build, constituencies" (Howey & Feistritzer, 1978) and yet there is a persistent, and conflicting, call for improved program coordination.

We as educators must learn to look beyond the narrow boundaries of our special interests and specialized program experiences to a much broader view of what schools are all about. Coordination will not happen--and it must happen--if we become entrenched in particular program units and fail to seek out interrelationships and complementary activities. Cooperation, not only in sharing ideas and successful experiences, but in the pooling of resources and energies is essential.

Teacher Corps projects have experiences in translating staff needs assessment into training programs; newly funded teacher centers need ideas of ways to go about that same task. We have the responsibility to build in ways for those people to get to know one another and share information.

In Michigan last year we were able to work with Wayne State University to develop--with vocational education funds--a workshop design for increasing staff commitment to professional development. That workshop is now being shared with other categorical programs: bilingual; career education; special education. And through the NIE-funded information resource center at the Michigan state library, educators in centers, colleges and school districts throughout the state can benefit from a project which was originally designed and targeted at a much more limited population because of restraints on the funding source. This is the kind of sharing across programs which must occur much more frequently in the future.

Putting together this kind of coordination--breaking through the boundaries of curriculum area and categorical programming--is very difficult. But limiting our resource and idea sharing to "our own" is not merely petty; it will be self-defeating and destructive to our continuation as education researchers and trainers.

If collaboration has been the dominant thought of the past several years, coordination will be dominant in the next.

Legislative Requirement for Comprehensive Planning

Many of these most critical political and economic factors with which we must deal as we plan for future directions in research in teaching are reflected in the new legislative language of the Elementary and Secondary Education Amendments of 1978. Collaboration, coordination, linkage between preservice and inservice, the wise use of resources--are all echoed in language which requires state education agencies to prepare comprehensive plans for the coordination of state and federal education personnel training funds. State agency receipt of Title IV and V monies --monies for libraries; learning resources; guidance, counseling and testing; the strengthening of state education agencies; and educational innovation--are dependent upon the preparation of such a comprehensive coordinated plan, and its acceptance by USOE.

The language reads: [the] State plan [shall] set forth a comprehensive plan for the coordination of Federal and State funds for training activities for educational personnel in the State including preservice and inservice training, which plan shall be developed with the involvement of teachers, professional associations, institutions of higher education, and other interested individuals . . . .

The possibility of improved communication between preservice and inservice programs is clear, as is the intention that state and federally funded programs should be coordinated. This language may require the coordination of funds allocated by state legislatures to public colleges and departments of education, as well. And certainly a planning process focused around collaboration is mandated.

We must rethink our approaches to the preparation and continued professional growth of education personnel, recognizing the need for maximal use of resources, coordination of existing programs from all funding sources, linkage between preservice and inservice, and planning that includes the participation of all interested groups.

What Does It All Mean?

If this, then, is where we are: in a time of stable or declining financial resources; with the difficult task of coordinating a diversity of programs and doing so with the challenge of collaborative decision making bodies; with the need to demonstrate the usefulness of research information and its accessibility to practitioners: What then does all of this suggest as avenues of exploration as we plan the research agendas of the next several years?

First, there is need for much more extensive work on the processes and products of collaboration.

We need a more open approach to the driving self interests of role groups, organizations and institutions which will be participating in collaboration. We need to work through the mutual understanding of those needs and interests, recognize the struggle for influence and sometimes survival, set out--and then expand--the boundaries of our areas of common concern, delineate the goals on which we can cooperate. We need skills in compromise. We need to draw upon the best work of psychologists, sociologists and political scientists, and apply it to the relationships we must build if the very political process of collaborative interaction is to succeed.

We must have research which explores the world of collaboration and which identifies conditions and strategies which contribute to the creation of effective structures. We need training models developed from that research and a recognition of the importance of improved understanding and skill building in this area for educators, particularly administrators.

Second, there is a need for educational research which pulls together recent studies of change theory and school improvement and builds upon what we are learning about interaction, organizational development and program improvement at the school site. Problem solving skills, access to resources, adaptation of innovations to meet local conditions and concerns, team building, school climate change, parental and community involvement, the role of the principal, staff involvement in planning--these are all key areas which have been receiving increased attention. An expansion of this work, the synthesis of related research into a more clearly focused picture of the successful school, and the development of models and training drawn from the research--all of this is important for the research agenda. It has tremendous potential for demonstrating the contribution research can make to school improvement.

The individual school building will increasingly be the focus of staff development programs--the prime unit for change and improvement. Research which looks at patterns and relationships between and among a school staff, the district and community of which the building is a part, and service agencies interacting with the building will be important. This research should explore and develop recommendations for school organization, and changing roles for teachers and administrators. ". . . schools are complex social systems . . . important lasting educational improvement requires changes in the norms and structures of schools more than changes in the skills of individual educators" (Arends, Hersh & Turner, 1978).

Education research, in a period of political and economic challenge to demonstrate its value, must focus attention on the school as social system and pull together the bits and pieces of theory into something manageable, cohesive and understandable.

Third, we need research which examines the training process itself, and provides information on what is occurring and how training is delivered. It must do so in terms of the population with which we are working, the adult professional. There is a need to analyze group and individual motivation for professional growth experiences, to look at the learning styles of program participants, to design ways of improving peer learning techniques, to help educators draw upon the resources of their existing knowledge and experience and apply them to changing roles, to better understand long term staff development strategies and ways to provide followup support in classroom settings.

We need to look at new approaches to staff development, to consider moving away from credit-based formats and one-shot workshops. We need to develop and draw upon research which explores the validity of long-term training, problem-focused learning, practitioner-initiated training, the flexibility of a variety of techniques rather that the packaged program. And we need a parallel body of research which examines the implications of such changes in staff development delivery for school districts, intermediate service units, universities, state and federal agencies, and their staffs and programs.

Fourth, we need a thorough examination of categorical training funds, in order to know who is being served by them, and what impact the programs are having. We need to look carefully at a variety of approaches to the job of coordination, and to understand who and what will shape the direction and nature of that coordination.

Most important, we need a major research effort targeted toward improved methods of evaluating the effectiveness of education personnel development programs.

Many of us believe that the professional development of school staff is the most important single factor which we can influence to help bring about improved quality in education programs.

Yet, we have failed to persuade key decision makers in universities, legislatures and on school boards of that belief, and programs of professional development frequently do not have support from those who determine priorities and provide resources. The generation of that support will come only when we can show that such programs do make a difference to staff and to students.

Maurice Leiter and Myrna Cooper (1978), writing in the September issue of Teachers College Record, addressed the issue with these words:

> The greatest single obstacle to adequate funding for a reformed inservice delivery system is the problem of demonstrating the relationship of inservice programs to teacher effectiveness and pupil learning. The evaluation of inservice models should be a research priority. Such research is necessary to overcome the resistance to allocating public dollars on the state and local level for this purpose. If you cannot prove inservice education cost effective, you cannot sell it to the public. (p. 114)

Methods of evaluation for professional development must be built upon realistic approaches which recognize the complexity of the teaching/learning process and of the total environment of the student. We must be aware of the limitations of what we can demonstrate, and willing to work with policy makers to help them understand the kinds of information we can reasonably provide over short and long timelines. And it is critical that as new approaches to program evaluation are developed, that they be designed and expressed in language that is understandable and meaningful to persons who make decisions based upon the information we provide.

Closing Thoughts

One day while I was very absorbed in thinking ahead to this conference, a man sat next to me on the bus coming home. He noticed the materials I was reading, and after coming to the conclusion that I was "in education," decided to share with me his views. "It's very simple," he said. "Schools have only one purpose. That purpose is to develop the love of being and the love of learning."

You may or may not agree with him on what the business of schools is, or should be. But looking at some of the political and economic realities of the context in which research on teaching must exist makes me very much aware of the most important of realities:

We as an educational community cannot answer--in chorus--that question of what are schools for, what is the purpose of our educational system. And the lack of agreement on that question, among ourselves, among legislators, bureaucrats, administrators, teachers, communities, universities, researchers, has contributed as much as any other influencing factor to the very difficult political and economic realities we face.

We live in a time of change. John Gardner (1964), speaking of human renewal, says "A society must court the kinds of change that will enrich and strengthen it, rather than the kinds that will fragment and destroy it. Renewal . . . is . . . the process of bringing the results of change into line with our purposes."

We cannot be about Gardner's task unless we are clear about what those purposes are.

There is nothing simple about the political and economic realities of education in 1979. There is a great deal that challenges us, and much that might discourage us.

But we cannot plan for tomorrow's agenda without looking carefully at where we are today, without recognizing the dominant forces and issues which influence the sphere in which we operate. We are limited in the number of issues which can be addressed, constrained in the number of questions which can be raised. That limitation requires us to make choices. I urge you to focus your attention and energies in ways which contribute to a better understanding of teaching and learning in a complex social setting which requires improved knowledge and skills in communication, collaboration and coordination.

Finally, I want to leave you with these words from Charles Kettering:

> Research is a high-hat word that scares a lot of people. It needn't. Essentially research is nothing but a state of mind--a friendly, welcoming attitude toward change . . . going out to look for change instead of waiting for it to come. Research, for practical men, is an effort to do things better and not be caught asleep at the switch . . . . It is the problem solving mind as contrasted with the let-well-enough-alone mind . . . . it is the "tomorrow" mind instead of the "yesterday" mind. (Phi Delta Kappa, 1974)

References

Arends, R., Hersh, R., & Turner, J. Inservice education and the six o'clock news. Theory Into Practice, June 1978, XVII(3), 199.

Brookover, W. B., & Lezotte, L. W. Changes in school characteristics coincident with changes in student achievement. East Lansing, Mich., 1977.

Furst, L. G., & Cruise, R. J. Do your own education research? -- Why not? Teacher's Voice, 1978, 56(1), 6-7.

Gardner, J. W. Self-renewal. The individual and the innovative society. New York: Harper & Row, 1964.

Howey, K. R., & Feistritzer, C. E. Compilation of recent studies in teacher education. National Teacher Development Initiative, 1978.

Joyce, B. R. Involvement: A study of shared governance of teacher education. Washington, D.C.: ERIC Clearinghouse on Teacher Education, 1978.

Leiter, M., & Cooper, M. How teacher unionists view inservice education. Teachers College Record, September 1978, 80(1), 114.

Phi Delta Kappa. School climate improvement: A challenge to the school administrator (an occasional paper). Bloomington, Ind.: Phi Delta Kappa, 1974.

Runkel, P. J., Schmuck, R. A., Arends, J. H., & Francisco, R. P. Transforming problems in urban schools into a capacity for solving problems. Eugene, Ore.: Center for Educational Policy and Management, 1978.

Smith, W. L., & Feistritzer, C. E. Analysis of U.S. Office of Education discretionary programs having a professional development of educational personnel component. National Teacher Development Initiative, 1978.

A DISCUSSANT'S REMARKS ON TWO PAPERS ON CONTEXT

Jane Stallings
SRI International, California

Richard Wallace's paper on *The Influence of Selected Context Variables on Schooling* identified some of the social forces that have been shaping the educational process in America during the last two decades. He lists court decisions regarding desegregation and student rights, teacher unions, taxpayer revolts, state and federal laws regarding bussing, and competency. To that list, I would add laws regarding mainstreaming handicapped students.

The act of teaching has changed. Few classroom teachers have been trained to work with children from minority groups or with handicapped children. Very few high school teachers are trained to teach basic reading, writing, or computation skills. Many teachers are, however, expected to teach these basic skills. Clearly, there is a need for massive inservice training to assist teachers to do the job that is theirs to do -- teach the children in our schools today. Institutions preparing new teachers need to take a hard look at their programs to be certain they are preparing teachers to meet the needs of the students they will teach.

Dr. Wallace mentioned the role of the school administrator as being central to school change and suggests more school level studies. A caution is offered in regard to school level studies dealing with student gain. In an

SRI study of 48 classrooms in 14 schools, we found as much within-school variance in achievement gain as between-school variance. In such cases, it would be inappropriate to report school gains without reporting the deviation among the classrooms. Teachers who have helped children gain basic skills are demoralized when that gain, averaged with classes of no gain, is reported in the local paper as low school achievement scores. Research that focuses upon the interaction of school level variables and classroom variables is needed. Schools with small standard deviations and large standard deviations in classroom scores could be contrasted to see what school level variables and what classroom variables contribute to the variance in classroom scores.

James Boyer's paper on The Essentials of Multi-Culturalism in the Context of Teacher Education Research provided several consciousness-raising issues. He suggests that many courses offered in institutes of higher education present bilingual/bicultural education as a compensatory effort rather than as an effort to develop and appreciate other cultures. My own observation has been that college bilingual/bicultural programs are often taught by mainstream Anglos who are fluent in Spanish, for example, and may have spent some time in a South American country. This seems inadequate preparation to help teachers gain an appreciation for and understanding of the culture of the Mexican-American or Puerto Rican students in our schools. However, the mixing of races on college staffs is not limited to the predominently White colleges. Many Black colleges have only Black professors and do not encourage White students to attend.

Mr. Boyer recommends nine research studies that could inform us about the state of bilingual education programs in the institutes of higher education and in our schools. These are good suggestions.

If we are committed to eradicating racism, sexism, ageism, and handicappedism from our society, we must examine successful training programs that are helping the beginning teacher and inservice teacher be aware of these problems and preparing them to meet these challenges.

Through well-focused research on successful programs, practice can be guided. For example, in a recent study at SRI we examined how basic reading skills were taught to secondary students effectively and efficiently. From the research, we prepared a series of inservice teacher workshops. The workshops offered suggestions primarily on classroom organization and management of behaviors. Because the workshops were interactive, the teachers provided critical insights on administrative issues regarding class size, grading systems, room assignments, and student information. From these insights, we have formed new research studies. We found that research can guide practice and practice can guide research, making quite obvious the reciprocal nature of teaching and learning.

CONTEXT DISCUSSANT PAPER

J. T. Sandefur
Western Kentucky University

Our presenters have broadly defined context as the milieu in which teacher education occurs. Such a definition allowed them great latitude in their interpretation of what constitutes context in teacher education. Despite the wide-ranging options, I was impressed with the extent to which the papers agreed on the identification of contextual issues.

For example, presenters Wallace and Lewis identified teacher organizations, their increasing militancy, and their effective use of negotiations as being significant contextual determinants. They are, I believe, absolutely and irrefutably correct. Teachers are organized. They are a significant political voice as well as a professional voice. They have won the right to negotiate for salary, for working conditions, and to have a role in the governance of teacher education. Teachers recognize the importance of preservice and inservice teacher education programs to the practicing profession, and, in far too many instances, teachers are dissatisfied with both.

Discussing both professional preparation and governance, Roy Edelfelt of National Education Agency made a relevant statement at an American Association of Colleges of Teacher Education leadership training institute in Atlanta in December, 1976.

Dr. Edelfelt suggested that (a) higher education cannot continue to treat professional teachers as children or students in the traditional sense, and (b) we must provide inservice education for college professors who need to learn to work in different modes and in different settings in order to contribute best to inservice education for school practitioners. He suggested that research be made more of a feature of inservice education. Dr. Edelfelt's presentation was built around the premise that the teaching profession is now competent enough, powerful enough, and large enough to control its own destiny. However, it needs higher education as a vital, responsive, cooperative part of the profession, ready to deal with the pragmatic as well as the theoretical problems, and ready to align itself with the school people in the mammoth task of improving public education in America.

The governance structures in teacher education are being reformed. The issue is not whether higher education chooses to enter a new collaborative mode with shared decision making and governance, but how it will do so. Dr. Lewis' suggestion is a research imperative:

> . . . There is . . . the compelling need for information and processes to assist representatives of diverse groups, which may have a history of adversarial and competitive relationships, to learn ways to communicate, to negotiate, to come together on common goals.

The presenters we have heard agree that there is increasing public opinion that schools may not be the answer to social, economic, and political problems. There are many people, and their numbers are growing, who believe that schools cost too much and produce too little.

Dr. Dick Wallace referred to the "back to the issues" movement as one that was started not by educators but by the "man on the street." Legislators are enacting competency testing laws to ensure a degree of accountability from schooling; that is serious. Legislators say, "Tell us what a good school program should be, and we'll legislate one."

What appears to be a result of concern about schooling may be a reflection of the fact that the public has reached the limit on what it is willing to spend for schools. Witness Proposition 13 in California and what has come to be called the "taxpayers' revolt." Californians may have thought they were voting against welfare, but they cast a vote against schools and schooling and, indirectly, against teacher education.

It is paradoxical that our institutions face a demand for reform and revision of our teacher education programs, expansion and refinement of our staff development activities, and increased service to schools at a time when inflation and declining support have caused us financial crises. It is my opinion that the formula for funding schools and colleges of education that is based on credit hour production is antiquated and in need of revision. If, as we must believe, teacher education must participate in new and different forms of inservice education activities, supply non-traditional types of adult education, become more field-based and service practitioners more effectively, then our formulas for funding must be changed to take into account our non-credit generating activities. Therefore, research topics of the future must certainly include accountability issues, ways to influence public opinion, and must address adequate financing.

Dr. Boyer renewed our awareness that we are truly a pluralistic society, that the "melting pot" theory has not worked, and, in the words of a well-known AACTE publication, there is "no one model American." We continue to be faced with the problem of preparing teachers who can perform effectively in the various segments of our pluralistic society. Unfortunately, we have not yet effectively identified or described the effective teacher in multicultural/multiethnic settings, nor have we developed programmatic models for the production of such teachers. These are topics for future research.

In addition, sex roles have changed. Women have been received into occupational, vocational, and professional roles to which they had only limited access, or no access, in the past. Educational institutions have not yet fully nor effectively responded to the new and evolving demands of equal rights.

I share the concern of our presenters who point out the need for research on learning for the practicing professional. Colleges and universities are becoming concerned about adult learning. How do adults react to selected instructional strategies? How do they learn? Should inservice teachers be taught differently from undergraduate students? What are the affective dimensions of effective inservice instruction? Adult learning will undoubtedly be a research objective for the immediate future in higher education.

Although the presenters identified many issues of context, the theme of collaboration and coordination with the practitioner occupied a dominant position.

Professionals as Learners

Overviewer
Norman Sprinthall

Paper Presenters
Douglas Heath
Edmund Sullivan

Discussants
Marge Melle
Robert Howsam

A great deal of attention has been given to children as learners, but very little has been given to teachers and teacher educators who are also learners. Thoughtful observers recognize that the adult learning process differs from that of children due to maturation, expanded experience base, and a more complex value system. Yet, studies of the process, particularly as it applies to learning professional content and skills, are few. What are the present conceptions of adult learning? What are the relationships between stages and phases of adult development and appropriate and concomitant forms of teacher education? What directions should teacher education research take to address the issue of teachers and teacher educators as adult learners?

Norman Sprinthall, Professor of Educational Psychology at the University of Minnesota, was selected to provide an overview of the topic. It was requested that he set the stage for the Specialist Presenters who could then focus specifically on implications of their work for research and development in teacher education. More specifically, the overview paper was to identify major concepts, study findings from personal research, and cite key references. He was asked to point out the different philosophical perspectives and interesting dilemmas, and explore some implications and possible directions for research in teacher education.

Specialist Presenter Douglas Heath, Chairman of the Psychology Department at Haverford College, Pennsylvania, has been involved in research on the meaning of healthy growth, maturing, and competence in adults. He was asked to summarize his studies, cite key references, and point out major findings that relate to adult learning in teacher education research and development. He also was to think about implications of his work and emphasize those implications and applications that most directly tie to future teacher education research.

Specialist Presenter Edmund Sullivan, Professor in the Department of Applied Psychology at the Ontario Institute for Studies in Education in Toronto, Canada, was asked to summarize his studies on adult development. It was requested that he cite key references which have focused on moral development and on learning, point out major findings that relate to adult learning in teacher education, think about implications, and to emphasize those implications and applications for future teacher educational research.

Discussant Marge Melle is an Elementary Science Specialist, Division of Instructional Services, in the Jefferson County Public Schools, Lakewood, Colorado. She is an experienced teacher, school-based teacher educator, and has worked extensively with teachers, building administrators, and central office personnel as new practices are developed and implemented. Robert Howsam, Dean of the College of Education at the University of Houston, was the second discussant. He is a prominent figure in the development of new approaches to teacher education and is a leader in the competency-based teacher education movement. They were asked to reflect on the presentations from their perspectives and to point out common threads across the presentations.

ADULTS AS LEARNERS:
A DEVELOPMENTAL PERSPECTIVE

Norman A. Sprinthall
University of Minnesota

Introduction

For a series of reasons, knowledge concerning the process of normal adult growth and development is in an infantile state. Theory and research in academic psychology has tended to focus on normal children and adolescents or abnormal adults. Thus, we have elaborated theories on a comprehensive series of developmental domains in children and teenagers--carefully researched. Similarly, in the area of adulthood, we have an array of impressive clinical (Roschach, TAT, etc.) and empirical (MMPI) measures for indexing adult pathology. Also, assuming we're not too worried about validity, we have at least an interesting set of theories which explains pathological adult functioning. Valid or not, the journey of the id, the ego and the superego, locked in an heroic intro-physic struggle, is a fascinating modern day version of a pilgrim's progress. When we turn, however, to adults in general, or adults in professions, we find a dearth of theory or research. When compared to the abnormal literature, the research/theory base for normal adults is both far smaller and much less interesting. Perhaps the Freudian determinism which indicates that adulthood is a recapitulation of the first five years has frozen theory for psychology of adulthood far too long. Centainly, it took great effort by child developmentalists to free that field from the classic psychoanalytic frameworks. It may require at least equivalent effort to do the same for adulthood. What this all means, as background, is that the views presented here are of recent origin. The theories are emergent. The research is promising. The knowledge base quite incomplete. Tentativeness is the watchword.

A Developmental Perspective on Goals

A series of studies have appeared over the past decade which essentially call into serious question the usual educational goals. At the same time, these studies also suggest an alternative set of objectives. In other words, the findings cut two ways, pointing in a critical vein as to what is wrong, while simultaneously indicating where we should be heading.

Although an admittedly difficult area to research, there have been a number of studies which examine the psychological predictors of successful adult performance, or life skill success, as it is sometimes called. Since there are no as yet known "ultimate criteria," these studies tend to employ an array of outcome measures or proximate criteria. For example, a 16-year study at Brown University (Ford Foundation sponsored) used indices such as listings in Who's Who, peer nominations, economic success, attendance in graduate school, etc., as outcomes or dependent variables. The predictors were then all the common intellectual, social status, and psychological variables. The results were most interesting. Measures of academic achievement and scholastic aptitude failed to predict adult success. Instead, the psychological assessment of school personnel (principals and guidance counselors) on a subjective index of psychological maturity and "personal promise" was the most significant predictor.* This finding should remind us all of the classic Jersild-Tyler eight year study in the 1930s and 40s which clearly pointed to similar conclusions. High school recommendations based on principal/staff assessment of "readiness" and "maturity" were more potent as a predictor of general college performance (not just Grade Point Average) than were grades or high school measures of intellectual potential.

Kohlberg, LaCrosse and Ricks (1971) reviewed a massive number of studies in search of predictors of adult success. Their negative findings were that providing emotional or clinical psychological treatment for children and adolescents had no positive effect upon adult performance. Similarly, Kohlberg and Mayer (1972) reviewed major predictive/longitudinal studies of academic achievement and reached similar conclusions: namely, scholastic performance makes no independent contribution to life success measured by occupational or economic success, the absence of crime, mental illness or unemployment. As noted earlier, such findings cut two ways. On one hand, "Put bluntly, there is no research evidence indicating that clinical treatment of emotional symptoms during childhood lends to predictors of adult adjustment . . . ." On the other hand, "The best predictors of the absence of adult mental illness are the presence of forms of personal competence and ego maturity during childhood" (Kohlberg, LaCrosse & Ricks, 1971, p. 1274). The same is true for academic performance. "It is hardly surprising to find that tests designed to predict only to the arbitrary content and demands of schools should fail to predict much to later life" and "in contrast assessments of development, like our moral judgement assessment do predict to life outcomes in job and family" (Kohlberg, 1977, p. 28).

---

* The design was an overlapping longitudinal with large samples (Ns = 500) from classes in the 1950s and 60s. Also there was a major spread in SAT scores (150 pts.) in "at risk" candidates versus normally admissable. The results held for all classes studies (Nicholson, 1970).

McClelland (1973) in a major analysis reached highly similar conclusions. He reviewed adult world of work in search of predictor variables. The range of jobs included the complex (such as medical doctors, research scientists) to technical (such as air controllers and bank-tellers) to the menial (such as stockroom workers). In all cases, academic achievement was ineffective as a predictor of successful performance. Instead, McClelland suggested that factors such as ego maturity and personal competence--developmental psychological characteristics--were responsible for differentiating between effective and ineffective performance. The construct of personal competence itself originated with Robert White in a classic paper delivered at the Nebraska Symposium on Motivation (1959). White's paper outlined the need for psychology to adopt a new paradigm to understand and predict human behavior. He pointed out both the reductio ad absurdum of the Skinnerian black box, as well as the fallacy of the overly-elaborated psychoanalytic theory. The latter attempted to create a conflict free ego sphere through the magic of de-libidinized energy as a basis for normal functioning. White clearly anticipated the emergence of an avowedly normal theory of adult growth in presenting personal competence as an intrinsic human drive.* An essential human function from this view is the need to grow toward competence, toward mastery, self-direction and personal efficacy.

The studies presented above most clearly point in the direction of developmental concepts as predictors of successful adult functioning. The usual variables of academic achievement or measures of traits, including

---

* The classic views of John Dewey and his use of the term "growth" would be an earlier version of this same concept.

"intelligence," provide meagre information. On the other hand, studies as far back as the Jersild-Tyler eight year study, to the relatively recent investigations already noted of the Brown University study, Kohlberg et al., and the McClelland reviews indicate the power and promise of a developmental orientation for differentiation between successful and unsuccessful adult functioning.

Adult Functioning: A Developmental Perspective

Two presenters today, Heath and Ed Sullivan, have been engaged in both so-called basic and applied research, creating an impressive knowledge base from a developmental point of view. Heath's work at Haverford College concentrates on adults in general including a cross-cultural perspective. Sullivan's work has tended to focus more on adult functioning in a particular context. Along with David Hunt and other associates such as Clive Beck at the Ontario Institute, his work has examined and detailed effective versus ineffective performance of adult educators (teachers and counselors). Of course, there are other obvious differences. Heath has tended to work as a single researcher without large staffs, numerous associates or large grants. Sullivan, on the other hand, has had a close and productive relationship at the Institute with a model team. In spite of these obvious differences, there is a remarkable similarity to their outcomes.

Heath and Sullivan and others find that developmental concepts do provide powerful differential explanations for adult behavior. They will detail these shortly. Even though specific research methods and measurement techniques do vary, and their theories do not exactly correlate, their overall thrusts are congruent. The message is clear. Levels of psychological maturity (Heath's concepts) and levels of conceptual development (Sullivan, et al.) determine the quality of adult functioning. Heath can describe a complex series of adult behaviors which are derivatives of psychological maturity--allocentrism, the ability to symbolize experience, empathy, etc. The psychologically mature adult processes experience through such complex thought systems. Sullivan, on the other hand, can describe a similar set of effective adult teacher or counselor behaviors which are also derivatives of complex conceptual and developmental stage processing. At higher, more complex conceptual levels, teachers and counselors are more "adequate" and competent. They can "read" individual differences in pupils, respond to both thought and feelings of children, are more democratic, less authoritarian, can vary structure, can employ a greater variety of teaching models (in the Joyce and Weil sense), etc. In short, a multiple series of studies document that effective versus ineffective functioning of adults in general and adults in teaching is determined by the maturity-developmental level of the adult.

In addition to the work of our two presenters, I should add that confirmatory evidence is emerging from other research groups. At Kohlberg's center in Cambridge, Candee (1977) has investigated the role performance of physicians according to different developmental levels (in this case, stages of social justice reasoning.) The preliminary results indicate that physicians at principled stages (similar to Hunt-Sullivan stage 3.0 or higher and Heath's mature allocentric) function more effectively than colleagues at more modest levels. In this study, effectiveness was defined as a complex set of role-taking activities including empathy with patient, understanding basic patient human rights, high patient participation in decision making, etc. The other physicians were more autocratic, prescriptive, stereotyped in perception (e.g., patients were categorized into crude demographic groupings). Candee also notes that a similar set of studies by McClelland and Klemp (McBer Associates, Boston, Massachusetts) provides confirmatory information from other professional fields. The McBer studies found major differences in groups as diverse as naval officers and diplomats on levels of empathy, the recognition of non-verbal cues and other estimates of role-taking skills. Superior performance was associated with advanced psychological development.*

In the Minnesota studies, there is evidence to support the same general conclusions. In studies with preservice teachers, there were major differences in the use of direct versus indirect teaching styles (Flanders system) according to Conceptual Level and Moral Reasoning Stage. Also, and by far more significant, was the finding that the effectiveness of the student-teacher supervisor was a function of developmental stage. High stage supervisors were more accurate in evaluating student-teacher performance than lower stage colleagues. In fact, low Conceptual and Moral Reasoning stage supervisors when "mismatched" with high stage student teachers erroneously evaluated the student teaching performance. High stage student teachers with effective (indirect Flanders ratios) ratings were negatively rated on a subjective basis by lower stage supervisors (L. Sprinthall, 1978).

Thus, the differences in role performance from adults in general to adults in specific complex occupations indicate a value data base for the assertion that developmental stages or levels offer promise as predictors. In a larger sense, these findings are also at least partly cross-validated from Witkin's work on cognitive rigidity-

---

* Although I do not have access to the validation studies, the Selection Research, Inc. "Perceiver" method appears to assess different levels of psychological maturity as effective predictors of successful teaching and educational administration (SRI Lincoln, Nebraska).

278

flexibility or what is often called perceptual field dependence versus independence (1978). Although Witkin is not a cognitive-developmentalist, it does not require much imagination to see the logical relationship between stages of less complex cognitive stage functioning and field dependence, with the same for higher stage processing and field independence. The Hunt studies (1978) detailing the relation between high Conceptual Level stage and the ability to withstand brainwashing and the Kohlberg studies (1977) outlining high Moral Development stage and the ability to resist the Milgrim obedience demands provide further support.

In general, then, there is, as I noted at the outset, clear and promising emergent evidence connecting developmental stages with effective adult performance. With that established, we can now turn to what needs to be done (with apologies to Lenin).

Promoting Adult Growth?

The logic is dangerously simple. If we have good reason to believe that more mature and higher stage adults can function more complexly, then let's induce, stimulate, exhort, cajole, nurture and promote growth. If, as John Dewey would say, we know what development *is*, then we know what the educational objectives *ought* to be. So let's get on with it.

Unfortunately (or fortunately, depending on how you view human freedom) it's not quite that easy. Psychological maturity and development are obviously highly complex systems of human "inner behavior." Thus, while the goals may be clear--developmental growth toward more complex systems of thought-feeling and action--how we do it is not. For the past four years at Minnesota, we have been attempting to create effective developmentally oriented programs for preservice and inservice teachers. The studies of preservice (Hurt & Sprinthall, 1976;

Glassberg & Sprinthall, 1978) and inservice (Sprinthall & Bernier, 1978; Oja & Sprinthall, 1978) indicate that adult "development" may be possible. It is, however, much more difficult than programs for children and adolescents. In studies with elementary and secondary school children summarized by Sprinthall & Ojemann (1978) and by Sprinthall & Mosher (1978), modestly positive developmental increases are reported. In the area of preservice and inservice teachers, however, the initial results are mixed. My own view is that the problem of developmentally oriented preservice and inservice teacher education is a major new area which needs careful study. I also think that the concepts are worthy of such effort. If we are able to set up and support such a line of inquiry, the benefits will accrue twofold. We shall increase our theoretical knowledge as well as our educational effectiveness. Stimulating the growth of an adult across a wholistic set of developmental domains can yield such dual outcomes. We are only at a beginning point now. As Hunt has noted, however, there may be grounds for optimism. "We believe that most earlier teacher training both preservice and inservice has seriously underestimated teachers' potential for learning new approaches" (Hunt, 1978).

A development education for teachers could represent a means for learning new approaches.

Summary

Schutes, in an excellent article, has detailed the need for an adequate theory for teacher education (1975). He correctly notes that a major longstanding difficulty in this area has been the lack of a coherent set of ideas and directing concepts. As a result, research has tended to be brief, episodic, faddish, growing more like "Topsy" than as a profession illuminated by significant inquiry.

The largely atheoretical history of past research efforts has yielded sparse benefits. Developmental theory, on the other hand, presents an interesting and sufficiently complex new paradigm (in the Kuhn sense) for teacher education that we should all examine carefully. As noted at the outset, the theory, or, more accurately, the theories are emergent. In addition to the two major theorists present at this conference, there is an impressive list of colleagues (Larry Kohlberg, David Hunt, Jane Loevinger, William Perry, Robert Selman, Henry Dupont) all working to detail aspects or domains of development. Such ideas can provide a footing or foundation for educational/developmental programs.

In a unique sense, the developmental model suggests that we derive practice from theory and vice versa--that is, we can derive theory from a careful examination of practice. Practice is not a second-class activity for those too stupid to think at a theoretical level. Rather, interaction means just that. Practice and theory go hand in hand. If we concentrate exclusively on either, both are diminished.

Thus, the question: must we wait years for more basic research or can we now derive incomplete but promising models for instruction? To some degree, of course, such an answer depends on one's own view as to how knowledge is generated. The developmental epistemology suggests that interaction between theory and practice represents the generator. Following the Kurt Lewin framework, theory and practice are different sides of the same coin and reside in the real world, not the laboratory. Since all behavior is a function of the interaction of person and environment (B-P-E), we are not exempt from the same laws. As a result, I strongly urge tryouts of a developmental model for adults, even though all the answers are not yet in from basic research; further that tryout field based experiments themselves are basic research from a developmental perspective. There is nothing so practical as a good theory, as a Lewin would say. By carefully examining actual "best shot" practice, we can more fully illuminate needed theoretical reformulations. Thus, although heretical, a basic developmental assumption is that the basic and the applied are not sequential, but rather, interactive. What we need, in any case, is clustered research and development groups to chart new paths and new programs.

Bibliography

Candee, D. Role taking, role conception and moral reasoning as factors in good physician performance. Moral Education Forum, 1977, 2(2), 14-15.

Glassberg, S., & Sprinthall, N. Student teaching: A developmental approach. Journal of Teacher Education (in press, 1979).

Heath, D. Maturity and competence. New York: Gardner, 1977.

Hunt, D. Teacher personality, teacher attitude and teacher behavior. In B. Joyce, M. Brown & L. Peck (Eds.), Flexibility in teaching. Berkeley, Calif.: McCutcheon, 1978.

Hunt, D., & Sullivan, E. Between psychology and education. New York: Dryden, 1974.

Hurt, B., & Sprinthall, N. Psychological and moral development for teacher education. Journal of Moral Education, 1976, 6(2), 112-120.

Kohlberg, L., & Mayer, R. Development as the aim of education. Howard Educational Review, 1972 42(4), 449-496.

Kohlberg, L., LaCrosse, R., & Ricks, D. The predictability of adult mental health from childhood behavior. In B. Bolman (Ed.), Handbook of child psychopathology. New York: McGraw-Hill, 1971.

McClelland, D. Testing for competence rather than for intellegence. *American Psychologist*, 1973, *28*(1), 1-14.

Nicholson, E. *Success and admission criteria for potentially successful risks*. Project Report. Providence, R.I.: The Ford Foundation and Brown University, 1970.

Oja, S., & Sprinthall, N. Psychological and moral development for teachers: Can you teach old dogs. In N. A. Sprinthall & R. L. Mosher (Eds.), *Value development as the aim of education*, 1978.

Schutes, R. E. Needed: A theory for teacher education. *Texas Tech Journal of Education*, 1975, *2*(2), 85-93.

Sprinthall, L. T. Supervision: An educative or mis-educative process? 1978.

Sprinthall, N., & Bernier, J. Moral and cognitive development of teachers. *New Catholic World*, 1978, 221, 1324, 179-184.

Sprinthall, N., & Mosher, R. *Value development as the aim of education*. Schenectedy, N.Y.: Character Research Press, 1978.

Sprinthall, N., & Ojemann, R. Psychological education and guidance. *Texas Tech Journal of Education*, 1978, *5*(2), 79-100.

Witkin, H. A., Moore, C. A., Goodenough, D. R., & Cox, P. W. Field-dependent and field independent cognitive styles. *Review of Educational Research*, 1977, *47*(1), 1-64.

APPENDIX A

Toward an Instructional Model

The following summary of instructional issues was prepared for the Bureau of Education for the Handicapped and represents a section of a larger paper, "Adult Development and Leadership Training for Mainstream Education" by N. A. and L. T. Sprinthall.

The appendix presents a discussion of the state of the art for a possible developmental approach to inservice teacher education. It is intended as a supplement to the main themes in the Overview and in the Special Papers. It is not intended to preempt a full and complete examination of the key issue--namely, does a developmental conception of adult functioning improve our ability to understand and predict adult performance. Does this, then, become a significant goal for educational programming?

On the basis of current study with adult inservice teachers both at the University of Minnesota and at St. Cloud State University, and extrapolating from studies with elementary and secondary school children, a developmental approach includes the following elements:

1. Growth toward more complex levels of cognitive-developmental functioning appears to be most influenced by placing persons in significant role-taking experiences. There is a substantial difference between role-playing (simulation, games, fantasy trips, etc.) and actual role-taking. In the latter case, the person is expected to perform a new and somewhat more complex inter-personal task than one's own current preferred mode. The experience is direct and active as opposed to vicarious and indirect. For example, with teenagers, role-taking involved a pupil actually learning to counsel a peer, or teaching junior high pupils, or "co-teaching" in a nursery school. For preservice and inservice teachers, role-taking involves teaching them counseling skills and/or supervision skills, or to employ new teaching "models." Kevin Ryan some years ago suggested the concept of cross-role training or role-taking for teachers. Although never formally implemented, the idea still seems valid, namely that educating professionals through direct yet multiple professional roles might surely act as a stimulus to growth.

2. A second consideration concerns the qualitative aspects of such experienced-based role-taking. Obviously,

as Dewey noted long ago, there are major differences inherent in what anyone can learn from experience. A philosophical truism in the 19th Century noted that a game "push-pin" was not the same as "poetry." From an experiential point of view, working at the Rub-A-Dub-Dub Car Wash may not be equivalent to teaching a blind retarded child to swim. What we need to chart is the learning potential implicit in particular kinds of experience--role-taking that is neither beyond the reach nor below the grasp of an individual learner. Role-taking could be a significant educative or mis-educative activity depending upon the calibration or the experiential "match."

Developmental stage differences imply major differences in the initial ability to role-take. For example, in some of the school studies, it was clear that the developmentally less mature junior high pupils could not work effectively in a relatively unstructured pre-school (Preuss, 1976). On the other hand, children in that same age and stage range could work effectively in a more highly structured cross-age teaching assignment in a traditional elementary school (Enright, 1976). At least based on clinical evidence, it appears as if teachers at modest Conceptual Levels have difficulty understanding and accepting why they could employ common counseling techniques for small group instruction for mainstreamed classes. Such a role-taking experience may not be appropriate, at least at the outset for these teachers.

3. In addition to "real" experience, there is a genuine need for careful and continuous guided reflection. In a Dewey sense, this means that unexamined experience misses the point. However, we have found that it requires (almost) an inordinate commitment to this concept to make it work. Apparently, the general educational enterprise rarely teaches anyone how to reflect upon real experience. Vocabulary seems to vary from the minimal to the non-existent. In a series of secondary school classes, most teenagers seemed to believe that "wow," "sad" and "dynamite" represented the complete thesaurus for human emotions. If preservice or inservice teachers are asked to keep a journal, the results are usually meagre at best. As a result, it seems that teaching persons how to ask questions, examine experience from a variety of views, etc., is at least coequal to real experience as a growth stimulus. Naturally, there are always some in each group who, for whatever reason, are reflective; yet for the majority, structured learning seems requisite to promote rigorous examination.

4. Related to the above points is the need to create some balance between the real experience and discussion/reflection/reacting. Research with teenagers seems to indicate that tremendous amounts of experience do not yield or have greater impacts than more modest amounts. In a peer

teaching program, tutoring two or three hours per week was as effective as 10 to 12 in effecting the level of psychological maturity as long as there was a weekly seminar. Without the guided reflection there was no discernible effect on volunteer-only tutors (Exum, 1977). A current study in elementary schools indicates that with peer teaching ("regular" children and trainable mentally retarded's) the same findings hold to an even greater degree. Under supervision that is careful and continuous, the regular children develop more effective role-taking and empathy skills. Under volunteer-only conditions with minimal supervision, the "regular" children became more negative toward the critical of TMR's (Blum, 1978)! Bruininks (1978) also found that under the random conditions in most classrooms, "regular" children accorded mainstreamed children increasingly lowered social status. In some sense, this may be only the most recent example that experience by itself may be educative or mis-educative. It is certainly clear that a main element must be a genuine balance between experience and reflection. Guided integration appears essential.

5. Programs need to be continuous. This is perhaps overly obvious. A single three credit course will rarely provide a sufficiently indepth experience to produce significant change. The followup studies noted earlier (McAuliffe's 1976 review of human-relation training "packages") plus the national study by Joyce, Yarger and Howey (1977) clearly document the ineffectiveness of brief, episodic, weekend "type" learning. The time line for significant change probably should extend over at least one year period. In one of our projects (Oja & Sprinthall, 1978) we found that grouping or clustering teachers by school building makes it more possible to provide continuous supervision on-site while teachers were asked to transfer their newly learned teaching models to their own classrooms. Much has been written by Miles and others on the relative isolation of classroom teachers. Such an environmental factor may indeed influence why so little new learning transfers. Without continuity during both the acquisition and transfer phase, new instructional techniques may be placed quickly into desk drawers on top of new curriculum guides. Thus, as a result, both new techniques and new content quietly gather dust.

6. Since developmental stage growth represents, by definition, functioning at a new and more complex level, instruction needs to provide for both personal support and challenge. The general role of the leader must include, at a minimum, the ability to model a variety of teaching models. However, by itself that probably will not be enough. A key Piagetian concept is that development involves the process of upsetting or upending one's current stage (and state of equilibrium). Such upending creates dissonance or a state of equilibration. The person

attempts to incorporate the new into the old without really changing the old. If one's own "old" way of processing and perceiving experience does not really change then, "plus ca change!" William James referred to this as "old fogeyism," change the new into the familiar. His three year old child taught James the concept when the child called a corkscrew, "bad scissors" and an egg, a "ball."

New Learning in a developmental sense requires we actually give up the old, less adequate, more concrete, less empathic, more stylized system of thought and action. The stability which a less adequate stage may offer can often become an extremely well entrenched barrier to change. Any effective instructional model must offer major personal support as a direct part of the instruction, not as an indirect service or adjunct "therapy." Separating the person from "old learning" may be similar to the grieving process, for some at least. In any case, our work with inservice teachers convinces us that significant professional development is painful. Similarly, Clyde Parker's (1978) pioneering study of professional adult growth for college level professors clearly suggests the need for careful and continuous support as requisite for change. His work seems to indicate, at least by inference, that the problems of inservice for elementary and secondary teachers pale by comparison with college professors. In any case, higher order skills represent the challenge, interpersonal responsiveness/empathy the support.

7. A final point. A person's current stage of psychological development-maturity represents the current preferred mode of functioning--not a permanent classification. Hunt uses the phrase "accessibility channel" to denote the current mode that an individual tends to use. In a generic sense, the stage then tells us where to start, to begin where the adult learner is.

TOWARD TEACHING AS A SELF-RENEWING CALLING

Douglas H. Heath
Haverford College

To understand the continuing professional development of a teacher requires a model of how healthily functioning adults continue to grow throughout their occupational lives. Psychology, still overly preoccupied with children and adolescents, cannot yet provide such a general model. Only a few researchers have studied the development of adults over several decades to determine if there is any orderly pattern to their continued development. And only a few theorists (Erikson, 1963; Loevinger, 1976) have dared to provide a model of the developmental tasks that adults face at different times of their lives. However, models, like Erikson's, that describe different adult stages (e.g., identity, intimacy, generativity, and integrity) are so hopelessly vague that they have not generated much specific research. Although vocational researchers (Havighurst, 1964; Hershenson, 1968; Sheppard, 1971; and Super, 1957) have sought to order career development throughout the life span, the focus of research has been almost exclusively on the early stages of occupational selection and identity formation rather than on the adult stages of commitment, productivity, and maturity, or on the topic of changing occupational identity (Hall, 1971) that may occur in middle age or, increasingly, in the mid-thirties.

I. Research on Adult Development

For the past two decades, I have examined the meaning of healthy growth, maturing, and competence in selected exemplars of mature and immature male adults. The study has led to the creation of a model of the maturing adult (Heath, 1965), to tests of its generality in different cultures (Heath, 1977b), and to studies of how young adults actually mature when in college (Heath, 1968) and in their first careers (Heath, 1976a, 1977c). The model has been found to comprehend the types of growth found during these years.

A longitudinal study of men studied as college freshmen, upperclassmen, and as adults in their early thirties, provides some empirical data that are relevant for understanding the professional development of teachers. The sample included teachers, physicians, lawyers, business managers, ministers, and other professionals. The men had been intensively studied in college (i.e., more than 100 measures of their academic competence, personality, and psychological healthiness were available). They were restudied even more intensively when adults. Several hundred measures of their adult maturity and competence had been secured from psychological tests, specially designed questionnaires, interviews, and ratings by their wives, friends, and professional colleagues. Since the measures and findings of the study have been reported elsewhere, I mention only those findings directly relevant to understanding adult development (1976a, b, c; 1977a, c; 1978).

First, the evidence consistently confirms that maturing can continue throughout the early adult years. Even the most disorganized and immature college men improved considerably in their mental health over time.

Second, a man's emotional maturity when an adolescent generally predicted his maturity, relative to that of the others of the sample, when an adult.

Third, of 51 determinants that can affect maturing during early adulthood, those that contributed most, in declining order of influence, were wife as a person, type of occupation, role as husband, occupational way of life, occupational associates, home atmosphere, and graduate-professional school.

Fourth, different types of occupations have different maturing and immaturing effects on a person's continued growth, though we still have little definitive knowledge about the specific effects that teaching, for example, has upon continued maturing (Kohn & Schooler, 1973). Generally, however, the principal effects of a professional occupation during the early vocational years are 1) to further the development of analytic, logical, and relational thought; 2) to confirm a man's professional identity, enhance his self-confidence, and deepen his sense of self-directed autonomy; 3) to make one more aware of his values; and 4) to increase his awareness of, sensitivity to, and care for other persons. The primary immaturing effects of a profession, particularly of its demands on one's energy and time, are 1) to narrow and constrict one's interests and activities, like reading and community activities; 2) to distort one's social relationships, limit one's intimate friendships, and adversely affect one's emotional and sexual relations with one's spouse and children.

Fifth, men who are more well adapted (not just adjusted) vocationally are more likely to have happier marriages and satisfying sexual lives, be more competent fathers, and have more mature interpersonal relationships. In other words, a core set of qualities mediates effectiveness in fulfilling diverse adult roles (Heath, 1976a).

Sixth, the happier adult male was, when adolescent, judged by others to be more mature, was more integrated and autonomous and had better reflective control. He matured more since college than did the less happy male. As an adult the happy man was more psychologically healthy and mature, more competent in fulfilling various adult roles, more sexually compatible with his wife, more well adapted vocationally, and had warmer, closer relationships with his colleagues.

Seventh, measures of scholastic aptitude and college grades did not predict much later in life. Some evidence suggests that adolescents of high aptitude, particularly quantitative, may when adult be less interpersonally mature, less well integrated, and value power and economic rather than altruistic or other-centered relationships more highly (Heath, 1977a).

Eighth, the most pervasively powerful adolescent predictor of the widest range of adult competencies, as well as for the adult, was a person's psychological maturity. The emotionally mature college male is more mature as an adult, is evaluated by judges to be more psychologically and physically healthy; is more well adapted vocationally; has closer, more intimate relations with others; has a more satisfying marriage; and is judged by his wife to fulfill the various roles of a husband more adequately.

Given that psychological maturity is so powerful a predictor of the adaptability of an adult, the key questions become, "What is meant by maturity?" and "How is it related to the process of continued professional development?" Considerable evidence now confirms that the more mature, in contrast to the less mature, adult is more able to articulate, symbolize his experience. A more mature person is more reflective, more accurately aware of one's self, one's motives, and one's relationships with others. Such a person is also more allocentric, the second dimension of maturing, that is, capable of taking, in Dewey's words, a multiplicity of perspectives, of empathically understanding another person's view. One's thought is more analytical and logical; one is able to predict accurately more what others think; one's values are more other-centered and one is more tolerant and understanding of others. A more mature person is also more well-integrated, the third principal dimension that defines healthy growth. One's thinking is more differentiated, relational, and consistent and one's concept of one's self is also more integrated. One's values are more consistent and one is able to establish more reciprocally mutual and cooperative relationships. The mature person is also a more stable person, the fourth dimension of maturing. One's thought processes are not as readily disrupted by personal bias or stress. As Erikson suggests, one has a more stable sense of one's self, one's values are more stable, and one is able to create more enduring relationships with others. Finally, a mature person is more autonomous. Knowledge and cognitive skills can now be used in a variety of different situations because they have become more internalized and freed from the initial situations in which they were learned. Such a person has a more discriminating but independent concept of himself, can hold to his values under attack, and is generally more independent and self-reliant.

The model assumes that any person of any age, sex, ethnic or cultural background, matures similarly on such dimensions if free to do so. Evidence now confirms that the model does differentiate the more from the less mature person in different cultural areas. That is, the more mature, in contrast to the less mature, Anatolian Moslem, Sicilian Catholic or American Protestant-Jew is more able to symbolize his experience, is more allocentric, integrated, stable and autonomous in his cognitive processes, self-concept, values, and personal relationships (Heath, 1977b). Evidence from studies of how students change when they are in a powerfully liberally educating environment also confirms that they mature in the ways the model predicts (Heath, 1968). It is clear, though, that the pattern of healthy growth is partly a function of the type of institution in which one is. Socio-cultural values may inhibit certain kinds of growth and encourage others. Women tend to be socialized to grow more on the allocentric than the autonomy dimension; men are expected to become more autonomous than allocentric. Since human beings are complex systems, too extended development on one dimension relative to growth on the others may induce resistance to continued development and may distort the growth process. Data suggest, for example, that strongly masculine males in our society are more anxious about expressing their feelings and consequently may have difficulty maturing on the integration dimension.

What does such a model tell us about the professional development of teachers? The model actually systematizes the process of vocational decision-making, as described by Ginzberg (1951) and Tiedeman (1961), and also describes the sequence of adaptation to a profession. Choosing a vocation like teaching involves imaginatively exploring one's self and one's world (Symbolization), crystallizing alternative patterns of choice (Allocentricism), tentatively organizing them into sequential possibilities (Integration), choosing, learning more and tentatively implementing or testing the worth of one's choice (Stabilization), and finally developing increased self-assertiveness, assurance, and control (Autonomy). In contrast to Erikson's notion that one stabilizes one s identify in late adolescence, my studies suggest that consolidation of one's identity as a teacher, for example, may not occur until the mid-twenties, after one has had several years of experience in the role of a teacher.

I suggest that adolescent psychological maturity is such a powerful predictor of subsequent adult competence because the dimensions of maturing actually describe those qualities that are critical to the process of successfully adapting to the demands of adult roles. Let us look at adult professional development as an adaptive problem. The early years of teaching confront a person with challenging and frequently severe problems to solve (e.g., what to do when one finds that what one learned in education courses does not work with an actual class; how to teach algebra to 30 very heterogeneously prepared students). To adapt is to begin to reflect and analyze, to symbolize and understand why we are not very effective. Teachers who are aware of their own strengths and needs and sensitive to those of their students are more able to understand accurately the nature of the problem they may face. So, such teachers search out other teachers, visit their classrooms, seek assistance or other information; they seek to understand empathically how their students may be perceiving them and their courses. These more allocentric teachers can analyze objectively, accurately understand, care for, and respect the diversity of their students. These qualities may eventually help them to discover more adaptable ways of solving their classroom difficulties. Out of this empathic search may emerge some hypotheses, some integrative ideas about how to coordinate different teaching approaches with different levels of student ability. Teachers who can see relationships more clearly, who can be spontaneously themselves in their classrooms and who do not have to worry about playing a role with their students, who have more consistent values and expectations, and who can create collaborative working relationships with other teachers and their students will create more adaptive ways of teaching tomorrow. They then begin to test out their ideas to discover those which are most effective for each particular class; those approaches that work are repeated; eventually they develop some habitual, more stable ways of teaching. Teachers who are able to maintain their intellectual efficiency when despairing or upset, who have a sense of self-confidence and certainty about their own ability to solve problems, who have some persistent enduring commitment that enables them to keep going even during the grim month of February, and who can create some enduring supportive relationships with others will most likely be the more effective teachers. At some point, such teachers will have learned to so cope with certain problems that arise in the classroom that they can handle them deftly, almost intuitively, even automatically. Such teachers now have some deeply automatized skills, ways of relating, that are more autonomous. Those who can transfer to next year's class what they learned from previous classes, who do not fall apart as a result of students' criticisms, whose goals do not bend to every new educational fashion, and who can function independently of constant reassurance and support will create more adaptive ways of solving the daily problems they face.

I suggest that this sequential problem-solving model may also describe longer cycles of professional development. The early years of teaching are deeply reflecting, searching, expanding ones which eventually lead to stabilization and automatization. We reach an equilibrium, our rate of growth slows, our teaching may become more routinized, and our enthusiasms may waver. We risk stasis, discontent, unhappiness. Some men I studied had so quickly mastered their professions that by their early thirties they were restlessly bored and had begun to search for new ways to grow. A perceptive administrator knows when it is time to confront his faculty with new challenges, to disrupt entrenched patterns, to upset the comfortable equilibrium of some teachers. A teacher who has internalized the value of self-renewal will discover and create ways of disrupting his equilibrium by initiating new problems to solve in order to reinitiate the next cycle of the maturing process.

From this perspective, to continue one's professional development requires much more than returning to summer school for another course credit, mastering a new technique, or fiddling with one's curricular outline. Professional development is a continuous process of characterological re-formation, of self-renewal, of being called to recommit one's self to the historic goal of education, that of continued healthy growth.

II. Researchable Issues About Professional Development for the Next 5-10 Years

Many central issues about teacher development are not unique to teachers. We may find some answers to such questions from studies of other professionals. For example, the findings I cited that happiness and personal satisfaction are closely related to interpersonal maturity and vocational adaptation suggest these questions: "Is the more effective well adapted teacher a happier and more interpersonally mature one?" "What is the nature of the reciprocal relationship between professional effectiveness and such psychological qualities for teachers?" Another critical issue is to discover the predictors of subsequent vocational adaptation and sense of personal satisfaction. The longest longitudinal study of development (i.e., that initiated by Terman) has just reported that subjective factors from early adulthood, like ambition, sense of autonomy in decision-making, persistence, psychological adjustment, were the best predictors of personal satisfaction and fulfillment of sixty year olds. Objective indicators like adolescent grade average and aptitude did not predict subsequent life satisfaction within the highly talented group studied (Sears, 1977). Other studies of very creative adults also confirm that once one is above a bright normal level of intelligence, personality, rather than intellective factors, predict subsequent productivity or creativity (Barren, 1963; McKinnon, 1960). Such findings from studies of other occupations warn us that in searching for selection criteria to predict subsequent teacher effectiveness we not rely too exclusively on achievement and scholastic tests at the expense of identifying more predictive personality and motivational, i.e. psychological maturity, attributes.

Other questions stemming from studies of other professionals that may help us to understand the development of teachers are: At what time in one's professional career and under what circumstances does one confirm one's identity as a teacher? Is such confirmation or disconfirmation most likely to occur within the first three to five years of teaching? Do teachers continue their professional development and maturing longer than other professionals, and, if so, what are the specific attributes of their occupation that act to spur such continued growth (e.g., intimate association with growing youngsters, changing knowledge base)? What are the attributes of those teachers for whom teaching is central to their identity and upon whom teaching has a major continuing maturing effect? Studies suggest that persons who are more "involved" with their occupations are more satisfied, expect more of themselves, and so report more problems with their work (Guria, Veroff, and Feld, 1960). What are the ideal conditions that "involve" a person in his occupation? Presumably an occupation that engages a person's ego rather than just his economic needs may produce a more committed professional. In studying a group of committed teachers of one school, I found the following ego-needs to be central to their satisfaction and morale as teachers in that school (in order of decreasing satisfaction):

Social value of work
Degree of personal involvement in and devotion to work
Ethical standards and practices associated with work
Opportunity for innovation and creativity

Quality of personal relations with those with whom one worked

Competence for the type of work that one was doing

But also of interest were those needs about which the faculty were least satisfied and which may in time moderate their degree of commitment to teaching (in order of increasing satisfaction):

Salary received for work

Effect of job on marriage and children

Opportunity for continued personal growth and satisfaction for most of working life

Work as source of new friends and interests

Quality of work accomplishing

Opportunity to achieve eventually at level of potential capability

Amount of recognition from others

As varied as teaching is and the age range and types of students are with whom teachers must work, we need to learn what are the more central as well as more peripheral types of satisfactions that teachers experience whose fulfillment or lack of fulfillment may affect their professional development.

If one's occupation is as central a "socializing force" in development, as some like Henry (1971) claim, then we need to ask what the types of maturing and immaturing effects are that the teaching profession may have on a teacher that differ from the principal effects of other occupations. Does the pattern of maturing effects change over time, as the model of maturing would predict? As teachers find the "challenge" of teaching decreasing as their mastery of teaching is increasing, would the pattern of effects shift from a predominance of symbolizing, allocentric and integrative types of growth to more stabilizing and automatizing effects? At what point in a teacher's development do stabilization and automatization result in boredom, routinization, and loss of commitment? When this phase of teacher development occurs, if it does, what are the qualities of those teachers who can self-renew themselves and what are the institutional changes that can be introduced to disrupt the level of equilibrium being reached to provoke new disturbing challenges to which to adapt? One psychological function, as well as reason for, education's continuing cycle of fads and "swings" may well be to jog too complacent faculty to adventure anew.

Why do we have almost no answers for such questions about the professional development of teachers? Because we define and reward professional development as the acquisition of another course, or another technique, or the experiencing of another dreary inservice session. We do not think of teaching as a "calling," one that organizes our character. Too frequently, we think of preparing for teaching as taking so many courses and a practicum, neither of which necessarily provokes personal maturing. I do not believe we empower teachers to continue their professional development in these ways. We empower teachers to adapt, just as we do students, by providing spurs and resources that provoke continued maturing. I provoke my students who are interested in becoming teachers by insisting that they work in a school that is radically different from the ones in which they were educated, just to force them to think through their unspoken values about what should go on in the classroom.

Psychologists have a very limited understanding of how adults learn and grow, primarily because learning theorists have focused on the conditions that alter specific acts rather than on those that further organismic maturation, on observing time-limited momentary behaviors rather than on understanding how a person changes over time. A critical research task is to identify those principles and conditions that further maturing. If, for the moment, we accept the validity of the model of maturing, then I suggest we can identify more than 20 principles, most of them obvious but most never self-consciously implemented, which might provide guidelines for educating teachers. At least four principles may contribute to allocentric maturation, for example:

A. Create a climate of trust among faculty that encourages non-defensive and open personal relationships with each other. Such a climate depends upon the size and ethos of a school, the modeling by the head and key faculty, and the sanctioned opportunities for disclosing one's teaching difficulties.

B. Expect teachers to be responsible for the growth of other teachers. Provide, for example, on-going support groups for teachers on school time that are focused on mutual professional skill building and the exploration of their understanding of the characterological changes in this generation of students.

C. Provide and educate for the skills necessary for corporate task learning. Although teachers are alleged experts in helping students grow, they do not know how to help each other similarly. An inservice series of programs could focus on the development of specific interpersonal skills like listening, resolving conflicts, and negotiating that could be applied to faculty as well as student relationships.

D. Provide the opportunity for teachers to assume alternative roles, like that of students, teachers of preceding and subsequent grades, even of administrators. One of the more powerful incentives to continued faculty growth, I believe, is to understand much more empathically what it means to be a student not just in one's own class but in one's school.

My point is not that the specific techniques I have mentioned will necessarily enhance continued professional growth; rather, it is that the identification, internalization, and imaginative, self-conscious, and systematic implementation of such principles in our programs are what need to be made more salient as researchable issues.

What are the specific problems that confront teachers and their professional development during the next five to ten years? Within the next decade, young people desirous of entering teaching will find relatively few opportunities to do so; our faculties will progressively get older and, so, psychologically removed further and further from the phenomenology of youth; too narrow a definition of accountability and the regressive effect of the "back to basics" movement will progressively "dehumanize" the educational process; faculty perquisites and rewards will continue to erode and, so, sap the morale and commitment of teachers, particularly those for whom teaching is not a calling. As bleak as some of these prospects may be, they offer an opportunity to strengthen the teaching profession, providing we identify the right issues on which to work. I suggest they will be how to select more carefully those who wish to enter the profession by assessing their psychological maturity more wisely; by fashioning a preparatory and continuing educational environment that involves the values, interpersonal skills, and self-concepts of teachers, as well as of their knowledge and cognitive skills; by learning how to empower teachers not by teaching them audio-visual techniques or requiring them to sit through another dull lecture on the group dynamics of the classroom, but by helping them to develop and internalize a more humanistic educational philosophy built around developmental principles that can buffer them against the mindlessness of much of the accountability movement and every trivial gimmick proposed to make teaching just a more efficient didactic information dispensing process; by creating an institutional environment which is more genuinely facilitative of continued teacher maturing and therefore of their adaptability to be able to relate to the changing student and world of tomorrow.

References

Barren, F. Creativity and psychological health. Princeton, N.J.: D. Van Nostrand Co., 1963.

Erikson, E.H. Childhood and society (2nd edition). New York: Norton, 1963.

Ginzberg, E., Ginsberg, S.W., Axelrod, S., & Herma, J.L. Occupational choice. An approach to a general theory. New York: Columbia, 1951.

Gurin, G., Veroff, J., & Feld, S. Americans view their mental health. New York: Basic Books, 1960.

Hall, D.T. A theoretical model of career subidentity development in organizational settings. Organizational Behavior & Human Performance, 1971, 6, pp. 50-76.

Havighurst, R.J. Youth in exploration and man emergent. In H. Borow (Ed.), Man in a world at work. Boston: Houghton Mifflin, 1964.

Heath, D.H. Exploration of maturity. New York: Appleton-Century-Crofts, 1965.

Heath. D.H. Growing up in college. San Francisco: Jossey-Bass, 1968.

Heath, D.H. Adolescent and adult predictors of vocational adaptation. Journal of Vocational Behavior, 1976a, 9, pp. 1-19.

Heath, D.H. Competent fathers: Their personalities and marriages. Human Development, 1976b, 19, pp. 26-39.

Heath, D.H. Academic predictors of adult maturity and competence Journal of Higher Education, 1977a, 46, pp. 613-632.

Heath, D.H. Maturity and competence: A transcultural view. New York: Gardner (Wiley), 1977b.

Heath, D.H. Some possible effects of occupation on the maturing of professional men. *Journal of Vocational Behavior*, 1977c, *11*, pp. 263-281.

Heath, D.H. What meaning and effects does fatherhood have for the maturing of professional men? *Merrill-Palmer Quarterly*, 1978, *24*, pp. 265-278.

Henry, W.E. The role of work in structuring the life cycle *Human Development*, 1971, *14*, pp. 124-131.

Hershenson, D.B. A life stage vocational development system. *Journal of Counseling Psychology*, 1968, *15*, pp. 23-30.

Kohn, M.L., & Schooler, J. Occupational experience and psychological functioning: An assessment of reciprocal effects. *American Sociological Review*, 1973, *38*, pp. 97-118.

Loevinger, J., & Wessler, R. *Measuring ego development: Construction and use of a sentence completion test*. Volume I, San Francisco: Jossey-Bass, 1970.

MacKinnon, D.W. The highly effective individual. *Teachers College Record*, 1960, *61*, pp. 367-378.

Sears, R.R. Sources of life satisfcation of the Terman gifted men. *American Psychologist*, 1977, *32*, pp. 119-128.

Sheppard, D.I. The measurement of vocational maturity in adults. *Journal of Vocational Behavior*, 1971, *1*, pp. 399-406.

Super, D.E. *Vocational development: A framework for research*. New York: Teachers College, Columbia University, Bureau of Publications, 1957.

Tiedeman, D.V. Decision and vocational development: A paradigm and its impliations. *Personnel & Guidance Journal*, 1961, *40*, pp. 15-21.

TEACHER TRAINING: A NECESSITY NOT A FRILL

Edmund V. Sullivan
and
Marilyn Taylor
Ontario Institute for Studies in Education
University of Toronto

Introduction

Here in Canada, where I am located, I have listened for the past several years to the call to go "back to the basics." In some ways this may be an appropriate call in an economy that is no longer expanding. At first "back to the basics" was centered on the elementary school system, where it demanded more attention to the basic skills (i.e., reading, writing, and arithmetic). It then infiltrated the social studies and one of the places one can find this call is in certain fundamental groups who want discussion of controversial issues (e.g., moral education, etc.) out of the school and into the homes. It appears now that the "back to the basics" slogan is now claiming its latest victim, teacher education and teacher training. The push toward "back to the basics" within this context, is a two-edged sword. For example, in our own research institution, all of the major projects which deal with teacher training have been severely cut back or stopped completely. At the same time, projects investigating basic skills and the development of curriculum materials have received the highest priority. This shift in priorities appears not to be based on sound research as to what is needed in education, but rather, political pressures which are reactionary in nature. From my own experience with research and development in the area of moral education, I would have to say that this present movement away from teacher training is short sighted and miseducative. Let me briefly capsulize some previous research from our moral education project to set the stage for the more generic question of teacher training per se.

The Project

Our research in moral education goes back to 1970 and the following description is from that phase of our research (Sullivan, 1975). It is an experimental project carried out by the co-directors of the project with eleventh and twelfth grade students. For the first part of the project, both directors abandoned their ivory towers and took on the role of teachers. During initial meetings with the students, we discussed moral theories and principles, using an elementary text as a stimulus. These discussions were necessary to establish a common vocabulary among the students and overcome communication problems resulting from a diversity of moral reasoning. After going through the text, the students selected topics of contemporary social significance; some of the topics were suggested by the students and others by us. The topics ranged over a number of areas, including abortion, capital punishment, drugs and pollution.

Our evaluations of our programs were based on Kolbherg's Moral Judgment Scale. Apropos of process versus content in educational objectives, it will be seen that this instrument is oriented in several ways toward thinking processes, and we were much more interested in the process than in the particular content of our students' thinking.

The objective validity of the instrument is partially established cross-sectionally in several cross-national studies (for example, in Canada, see Sullivan, 1975) and also in the longitudinal followup of the original sample. Let us briefly schematize here the stages.

Level I	Premoral
Stage 1	Obedience and punishment orientation
Stage 2	Naively egoistic orientation
Level II	Conventional Role Conformity
Stage 3	Good boy/nice girl orientation
Stage 4	Authority and social order maintenance orientation
Level III	Autonomous Morality of Principles
Stage 5	Contractual legalistic orientation
Stage 6	Conscience or principle orientation

We were interested in developmental change, and we did a pretest at the beginning of the course and two followups. The first followup occurred at the end of the course and the second followup one year later. As will be seen shortly, this long-term developmental orientation has important implications in our work, and we are not at all interested in contemporaneous short-term measures. Of the three levels of moral judgment outlined above, one most often finds the premoral stages among elementary school children, the conventional role conformity stages in most high school students, and a smattering of autonomous morality stages in high school and college students.

In our classroom work, we utilized Kolhberg's model to get a general idea of our students' levels and stages of moral reasoning. Most of our eleventh-grade students reasoned at the conventional level with a mixture of Stage 3 and Stage 4 thinking. There also were some with Stage 2 and Stage 5 orientations. Our goal was to move the students from the conventional orientation to the post-conventional stages exemplified in the Level 3 morality of self-accepted moral principles. In other words, we were trying to encourage progress to the higher level of moral reasoning. If the program were implemented in the elementary school, "conventional" moral stages would probably be the objective, since many of the students would be developmentally at the "premoral" level. In other words, our goals would vary because we are developmentally oriented and we use in our evaluation a developmental theory. In the broadest sense, it can be said that our matching model involves a curriculum pitched at level 3(E) to students (P) who are at level 2.

Figure 1 summarizes the analysis of one of the classes (Pickering School) right through the one year followup post-test. The results shown in the figure and tests of significance between the experimental and control groups indicate no significant difference between the

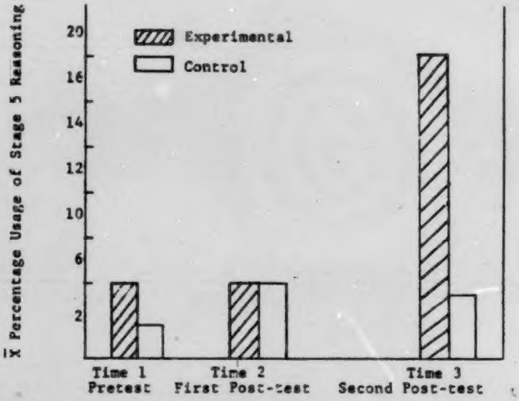


Figure 1: Percentage of Stage 5 Usage for Each Group at Each Test Time.

groups on Stage 5 usage on the pretest and first post-test. The second post-test shows a rather radical jump for the experimental groups which was statistically significant. We assume this change in our students started with our course and developed at an accelerated pace the following year.

What is important from this all too brief summary is that one could have some success in a complex curriculum area such as moral education. Our subsequent project worked on materials development and curriculum material, teacher training and program evaluation. If I were to pinpoint one key factor in this area for a successful programmer, I would have to say it was teacher preparation. We carried out our work with teachers by offering inservice teacher education practicums for teachers interested in social issues in the schools. After our own initial success, we asked ourselves the question, "Is there a necessity for teacher training in areas related to moral education?" The answer to this question from looking at our project is an unqualified yes. All of the teachers and observers in our practicum stressed the importance of serious reflection in the teacher training colleges in all areas of the curriculum which are value laden. From our work, we conclude that the range of the previous statement covers most subjects in the curriculum. Our practicum participants stressed the importance of moral dimensions in such varied topics as history, social studies and comparative religion. No doubt this stress can be seen in other subjects (e.g., humanities, literature, etc.).

Using Kohlberg's stages as a guide, for a moment, let us reflect on some issues that might be related to secondary education. We have already indicated that there is a selective process in education and ordinarily, teachers who are successful in professional educational circles have conventional moral values. This is not necessarily an indictment of the teaching profession, since there are many good reasons which give support to conventional morality. The school is an agent of socialization and part of its mandate is to help parents and society, in general, in the inculcation of conventional moral norms. These conventions are known as the collective wisdom which all new teachers need in order to get by and succeed in their task. We conjecture from limited data that a predominance of the number of teachers remain for the most part in the conventional stages (Stages 3 and 4) of morality.

Specific to our discussion is the teacher's level or stage of moral development in the classroom where moral and ethical issues are being discussed. Our own conviction is that it is important to have teachers at a post-conventional level of morality, in order to be able to help in the process of generating new kinds of norms when necessary. This does not necessarily make the teacher a moral rebel or a danger to school order. In most instances, post-conventional moral arguments recognize the need for conventions but they base the merits of the conventions on sound reasoning rather than on some unquestioned authority source. There are also discussions on contemporary social issues which will take students and the teacher into areas where there are no clear authoritative sources. The teacher must indicate to the student his own fallibility on matters such as these, if and when they arise in a classroom discussion. It would seem difficult for Stage 4 conventional "law and order" teachers to put themselves in this kind of a role because there will be a latent fear that if the teacher does not have all the answers, his classroom authority will be relinquished. Since the structure of the class usually leaves the teacher in a controlling position, he is typically the initial modulator of the level of the classroom discussion. If the teacher's emphasis is on the maintenance of "law and order" and "authority," the discussion is not likely to venture into levels where authority is questioned on rational grounds. To break this kind of set in teacher training will be no easy task. If we look back on our practicum, we could see that teachers quite unconsciously fell into teacher-centered class formats even when they thought they were avoiding it. It will be very important in the future to help generate environments other than the teacher-centered format to alleviate some of the problems that moral indoctrination presents (Hunt & Sullivan, 1974).

Teaching an Old Dog New Tricks

The previous illustration was a specific example to illustrate the importance of teacher preparation on a continuing basis. I would now like to turn to the generic issue of teacher training by outlining a study on adult learning carried out at our Institute by the second author. The study was done by an indepth interviewing of 13 adult learners over a semester course on "group processes" in our Adult Education department. On the basis of these indepth interviews, four qualitatively different phases are revealed in an adult learning process. This sequence appears to be a recurring cycle. The sequence (one complete cycle) is discernable as a unit by the consistent order in which the phases occur and by what eventually in the sequence becomes a noticeable theme in the learner's inquiry. The phases have been named 'detachment,' 'divergence,' 'engagement' and 'convergence.' The detachment phase is seen as having two parts: "anticipation" portion, when the learner enters a learning activity, and "consolidation" portion when (s)he concludes the sequence (see Figure 2).

The key features are summarized in our Table 1 and also graphically illustrated in Figure 3. Our purpose here is not an exhaustive discussion of this study per se, but

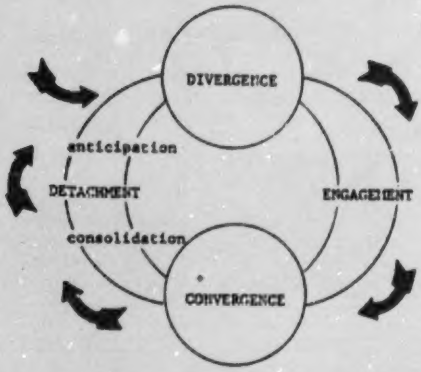


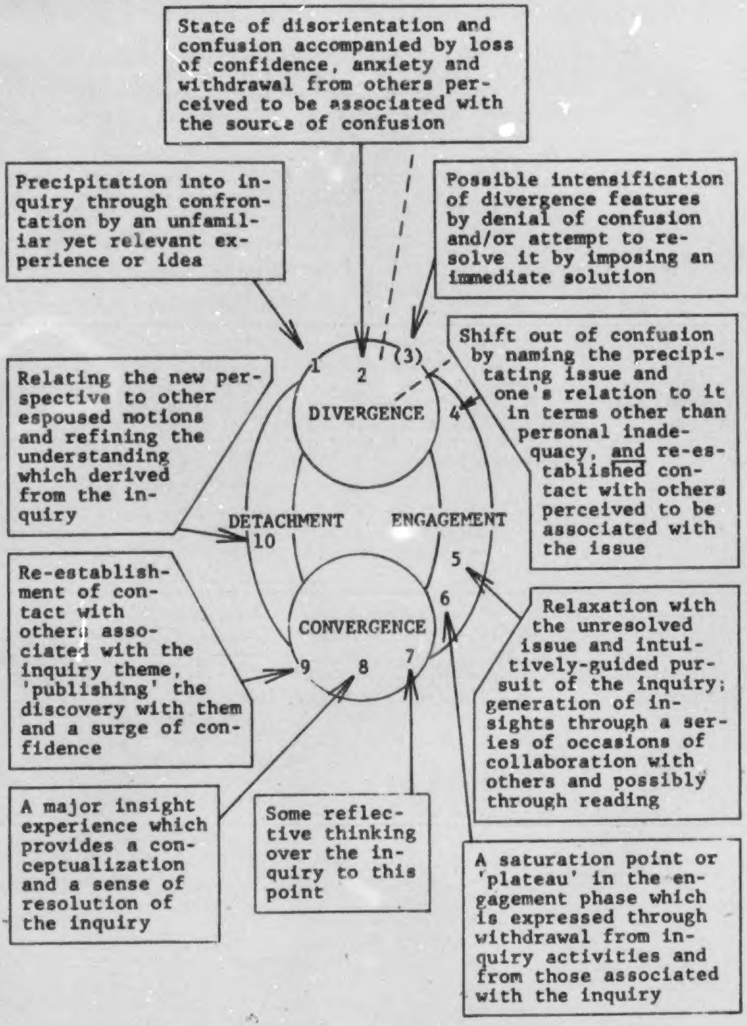
Figure 2: The Learning Sequence.

rather, its potential implications for continuing education for teachers--who, incidentally, are adult learners.

When we ask our teachers to keep abreast of their fields, learn new ways of dealing with their subject, etc., etc., we are essentially asking them to change their previous learning patterns. If we really expect our teachers to learn new ways of doing things, then we simply have to supply them the means for so doing. New adult learning for adult learners is a complex process that is preferably done in learning groups with other teachers. It is the rare teacher who learns new things out of a training manual. The issue for curriculum innovation is not materials development but teachers who mediate the process of learning. Harking back to my initial example in moral education, it was our conclusion that good materials were not enough. We supplied our teachers in the practicum with rich sources of materials. In the end,

Table 1: Key Features in the Basic Description of the Inquiry Sequence

PHASE	KEY FEATURES
Detachment-Anticipation	·Gathering information to determine 'fit' or compatability with existing notions and preconceptions
Divergence	·Confrontation with a new experience or idea which disconfirms preconceptions and is relevant to the learner ·(If protracted; search for 'cause' with self and/or with others) ·Concludes by the source of confusion being identified by the learner without locating it in personal inadequacy or in inadequacy of others ·Contact with significant others
Engagement	·Relaxation with the issue unresolved ·Time sense more immediate ·Exploration of activities, materials, people, with decisions being made on basis of intuition more than rationale ·Series of convergence episodes--collaborative insight occasions ·Possibly insights through reading as well ·Concludes with a 'plateau,' saturation point where there is withdrawal from the task
Convergence	·Emerges out of reflective activity ·Major insight experience involves both the emergence of a conceptualization which symbolizes the inquiry theme as well as an active expression of the new perspective ·'Publishing' the discovery with significant others
Detachment-Consolidation	·Elaboration and consolidation of new understanding through activities such as: - application of new perspective to other settings - thinking about implications and limitations of new understanding in relation to other realms of experience - reflection back over the inquiry sequence and its outcomes ·Typically, increased reading



State of disorientation and confusion accompanied by loss of confidence, anxiety and withdrawal from others perceived to be associated with the source of confusion

Precipitation into inquiry through confrontation by an unfamiliar yet relevant experience or idea

Possible intensification of divergence features by denial of confusion and/or attempt to resolve it by imposing an immediate solution

Shift out of confusion by naming the precipitating issue and one's relation to it in terms other than personal inadequacy, and re-established contact with others perceived to be associated with the issue

Relating the new perspective to other espoused notions and refining the understanding which derived from the inquiry

Re-establishment of contact with others associated with the inquiry theme, 'publishing' the discovery with them and a surge of confidence

Relaxation with the unresolved issue and intuitively-guided pursuit of the inquiry; generation of insights through a series of occasions of collaboration with others and possibly through reading

A major insight experience which provides a conceptualization and a sense of resolution of the inquiry

Some reflective thinking over the inquiry to this point

A saturation point or 'plateau' in the engagement phase which is expressed through withdrawal from inquiry activities and from those associated with the inquiry

Figure 3: Critical Features of the Inquiry Sequence

it was the teacher as adult learner that mattered. It is our conviction that teacher education practicums and in-service training should help the teacher through new learning sequences as graphically illustrated in Figure 3. Without a support system (i.e., educational learning environment) it is clear that teachers will resist the disorientation which accompanies new learning. Essentially, they will stay in a stage of detachment rather than risk change. The more we begin to understand adult learning, the more we must face the fact that our teachers are just that. Throwing them new materials, short term workshops, pious teacher talks from experts or other technical gimmicks without accepting the fact that they are as complex and continuing learners as their students is simply short-sighted, as we said at the beginning. If we want good education for our children, we must realize that that is a "human investment" rather than an investment in techniques.

References

Hunt, D., & Sullivan, E. V. *Between psychology and education*. Hinsdale: Dryden Press, 1974.

Sullivan, E. V. *Moral learning*. New York: Paulist Press, 1975.

DISCUSSANT REMARKS: PROFESSIONALS AS LEARNERS SESSION
A CHANGE AGENT LOOKS AT ADULT DEVELOPMENT

Marge Melle
Jefferson County Public Schools
Lakewood, Colorado

We who are change agents cannot avoid an increasing awareness of the diversity among the experienced teachers with whom we work. Just as we encourage teachers to seek to know the individual learning mode, conceptual development, values and attitudes of students they reach, we must attempt to approach our clients, teachers, in the same framework. No longer can we afford the discrepancy between the agendas of trainers of teachers, by they university professors or district inservice leaders, and the needs of the participants.

The work by both Heath and Sullivan and Taylor, as presented in this conference, stress the relationship of the levels of psychological maturity or conceptual development to the quality of adult functioning. If the level of these developmental stages determines the effectiveness of the individual as a teacher as indicated by Sprinthall, then we are obligated to: (1) learn more of these stages, (2) develop instructional courses meaningful to teachers at various stages of their growth, (3) seek more information as to the characteristics best suited for most effective teachers and, (4) aid teachers in their growth to these most effective stages. I echo Sprinthall's urging that trial field-based experiences be used as basic research and that theory and practice unite in a real world laboratory for research from a developmental perspective.

In Jefferson County, Colorado, we recently inserviced approximately 700 teachers of grades 3 through 6 in use of a revised elementary science curriculum. The opportunity to work with the Concerns-Based Adoption Model (CBAM) developed by the Research and Development Center for Teacher Education of The University of Texas is an example of a field test of educational theory (Hall, Wallace & Dossett, 1973). A full description of our process and brief description of the seven Stages of Concern of the CBAM were presented by Pratt during this conference.

The time line for implementation is continuing with three years since the first implementation. Support is being offered in several forms. Science Department personnel visit in schools for one-to-one reinforcement, principals are trained to support teachers and we hold further back-up inservicing. We are finding less of the retreating-from-the-new-techniques-once-the-initial-fury-is-over than we saw in past implementations. Yet, we see a great number of teachers who have remained at the stage of management concerns (How do I prepare this lesson?) and appear to be unaware or see no need to have concerns at the impact stage (What are my students learning?). The phenomenon of socialization--as described by Stake and Easley (1978) after a year long ethnographic study of science, mathematics, and social studies in eleven sites throughout the country--exists within our district, too. They have found that most teachers seem to view the socialization function as their major goal rather than as a means to a more important end of content and concept acquisition.

Is there a relationship between this bent for socialization and the seeming reluctance of some to teach on other than a managerial level? Are the two trends even synonomous? Could these characteristics--appearing all too often--be a result of the attitudes of professionals who hold conventional moral values as suggested by Sullivan and Taylor? Would time and effort spent by teachers to reach a post conventional level of morality be an intervention that would move them to impact teaching concerns where students would profit most?

Also, in our district, there are numerous explicit examples of the need for personal support systems to move teachers out of the "detachment stage" described by Sullivan and Taylor. We see potential for the unit manager, the principal, as the key component of this support. The principal appears to be the one who can best provide "guided reflection" from real experiences for teachers and the "continuous on-site supervision" suggested by Sprinthall as an element in his instructional model. Unit managers are a key to creating the learning environment to aid teachers in experiencing Sullivan's "disorientation which accompanies new learning" and certainly they are the chief creators of the "climate of trust among faculty" needed for allocation maturation discussed by Heath.

I would like to generalize from the study in Minnesota (Hunt & Sullivan, 1974) which showed that those supervisors in the higher stages of moral reasoning were more accurate in evaluating student teacher performance and, that, in fact, low stage supervisors actually negatively rated high stage student teachers. What does this say about the type of individual best suited for the principal's role? Who should be a principal? What should the role encompass?

Also, Heath suggests that stabilizing one's career as a teacher occurs in the mid-twenties after several years of experience. The implications of this comment for inservice training of probationary teachers as well as those who are tenured are varied. What types of individuals, in what roles other than that of principal, would be best suited to help teachers at this time to symbolize, become allocentric, integrate, stabilize and promote autonomy? Just what are the support systems needed to promote the development of maturity in professionals?

Heath, in discussing the ideal conditions that involve a person in his occupation, lists both positive and negative ego needs of teachers. These needs appear to be related to internal and external inducements as proposed by Donald Darnell (1978). Darnell explains that high external inducements (those coming from a credible authority) produce immediate effects, but if not supported by internal adjustments, eventually wear away. Conversely, low external inducements stimulate the development of internal inducements which have a more lasting effect. Only internal inducements can provide the ongoing motivation that promotes a perserverance on tasks away from the context in which those tasks were initially confronted.

Reward systems have not been discussed by this panel. Studies on this topic are also needed. Are the inducements currently offered in the field impeding maturity development in educational professionals? What inducements are needed at what stages of development?

I concur with Sullivan's concern that we direct more attention to the study of "human investment." No longer can "investment in techniques" give us the answers we need in education.

Bibliography

Darnell, D.K. Some "basics" to get back to: A transactional perspective on teaching-learning. Communication Education, November 1978, 27, 277-285.

Hall, G. E., Wallace, R. C., Jr., & Dossett, W. A. A developmental conceptualization of the adoption process within educational institutions. Austin: Research and Development Center for Teacher Education, The University of Texas, 1973.

Hunt, D., & Sullivan, E. V. Between psychology and education. Hinsdale: Dryden Press, 1974.

Stake, R., & Easley, J. Case studies in science education. Urbana-Champaign: Center for Instructional Research and Curriculum Evaluation, University of Illinois, 1978.

DISCUSSANT REMARKS -
PROFESSIONALS AS LEARNERS

R. B. Howsam
University of Houston

The burden of the three papers presented in this session appears to be that:

1. Traditional predictors of success, such as intelligence and academic performance, do not predict success in acquiring life skills and professional competence.
2. Developmental levels in cognitive and moral judgment qualities do predict such successes.
3. There has been some success in raising the levels of behavior on developmental scales with school age populations.
4. Results from such efforts with adult populations are mixed.

The presenters conclude that the developmental approach is promising and that it appears both desirable and necessary that teacher education emphasize the developmental approach in its programs.

In view of the broad nature of the topic assigned to us, I was surprised to find that the Overview Presenter (Dr. Sprinthall) and both of the Specialist Presenters (Drs. Heath and Sullivan) had approached their assignments from very similar points of view. Whether this correspondence was by coincidence or by design is not known to me. It is true, however, that each of the papers is rooted in the area of developmental psychology and is concerned with levels of psychological maturity and with conceptual and moral development.

Regardless of what may have been left out by this focused approach, what was included seems highly relevant to and significant for teacher education. The papers together constitute a powerful and titillating contribution, powerful in the sense of the documentation of the emerging insights into the nature of adult learning and titillating in the sense of the flights into conjecture as to what the adult learning world could be like within the teaching profession and teacher education.

I regret that we were not favored with evidence of whether teachers differ from other professional populations in their levels and kinds of development on the scales used. Remembering that these very qualities are being shown to be related to the acquiring of life process skills, we will need to know whether the selection processes of professional choice favor or disfavor us in teacher education. Do we recruit a larger or smaller proportion of persons high on moral or psychological scales? (Sullivan did say as a matter of conjecture that teachers probably largely remain at the third or fourth stages of Kohlberg--which means that they are within the normal ranges of moral development for high school students--but he also says that teachers should reach the post-conventional level.)

The papers suggest myriads of questions which will need to be researched. Do teachers who are high or low on such quality measures produce similar manifestations in their students? Is it true, as the studies suggest, that raising the development levels of adults--and hence teachers--will be difficult? Through skill development in teacher education, can a teacher be enabled to induce development in students which exceeds his/her own development? What is the role of modeling (Modeling Psychology: Bandura) in these processes? Are those in education who attain success and attribute it to models or mentors identifying as models or mentors those who are high on ignored and should be systematically investigated and reported.

Were we to do such studies, we might find, as Bruce Joyce so often says, that what teachers display in their behaviors is a reasonable accommodation to their institutional realities. We might be led to conclude that changes in the workplace and communities will have to precede or accompany efforts at improving teacher effectiveness. Since universities are not without their own constrictions, the same kinds of contextual studies need to be made within universities. Teacher education also has to accommodate to its realities within the institution and with respect to its profession.

Sprinthall makes fleeting reference to the problems of getting needed change in the behaviors of professors making use of the Clyde Parker study he asserts that "teacher inservice pales by comparison with that for college professors." What kinds of "upsetting experiences" and "supportive environments" will be needed in pursuit of this objective?

The professor, and perhaps all of us, may be like the little girl in this story. A small boy had been watching tough guys on television. He was outside on the street when a similarly small girl came along on a new trike. "Toughie" squared his shoulders, walked over, grabbed the handlebars and as gruffly as he could said, "I get what I want when I want it." She had been watching T.V. too. She stood on the back of the trike and replied, "You'll det what I dot when I dets it."

Collaboration

Overviewer
W. Robert Houston

Paper Presenters
Charlette Kennedy
William Tikunoff
Beatrice Ward
Charlotte Lazar
Robert Bush

Discussants
Vaughn Phelps
Judith Lanier

> The fact that various role groups should be included in the selection, design, delivery, and study of teacher education is clearly recognized. However, it is not clear how these various constituencies should be working together and under what conditions various responsibilities should be shared. What are the different dimensions of collaboration? Who are the participants and how is decision making accomplished? What is understood and what needs to be learned about the collaborative process that can be applied to teacher education? How should teacher education research incorporate collaboration? What research on collaboration in the areas of teacher education is most needed?

Bob Houston, Director of Competency-Based Teacher Center and Associate Dean of the College of Education at the University of Houston, was the Overview Presenter. He was seen as particularly able to bring together a unique set of experiences and knowledge in his overview presentation. He has facilitated collaboration among school-based teacher educators, and between IHE and the local school districts. In one project (the School-Based Teacher Education Project), he was instrumental in helping teacher centers (which are supposed to be collaborative) to work together and to build a network. Finally, he has been involved in international collaboration efforts. In his paper, he was asked to develop a broad brush stroke across the literature, examining whether or not collaboration and cooperation are the same, and when each exists. He was asked to formulate key questions in relation to collaboration that should be the subject of research in teacher education.

Specialist Presenter Charlette Kennedy, a Teacher at Northwestern Elementary School in Eaton Rapids, Michigan, was asked to focus her presentation on what she had learned about collaboration from her role as a teacher collaborator in a research project and from her experiences in a study of collaborative research. She was asked to note how that knowledge could be applied to teacher education, and what further questions and issues should be raised that might be addressed in future research efforts.

Bill Tikunoff (Director of the Program on Schooling at Far West Laboratory for Educational Research and Development), Betty Ward (Deputy Director of Far West Lab), and Charlotte Lazar (Classroom Teacher at Horton Elementary School in the San Diego Unified School District, California) gave a joint specialist presentation. They were asked to briefly describe their Interactive Model for Research and Development on Teaching and related research findings. The majority of their specialist presentation was to focus on implications for future teacher education research and development, particularly in relation to questions about collaboration that have been generated from their work.

Bob Bush, Director Emeritus, Center for Educational Research at Stanford University, was requested to report on recent research he has carried out on collaboration between school and community. The first third of his presentation was to be a summary of that research, with citation of related studies. In the remainder of the paper, he was to develop his thoughts and extrapolations from the studies, based upon the preservice-induction-inservice continuum, pointing out issues and directions that teacher education research and development should be addressing in the area of collaboration.

Discussant Judy Lanier is Associate Dean for Program Development and Associate Director for the Institute for Research on Teaching in the College of Education at Michigan State University. She has been involved in teacher education at all levels--from that of teacher, teacher educator, administrator, and researcher. Vaughn Phelps, Superintendent of Westside Community Schools in Omaha, Nebraska, was the second discussant. He is a national leader in public education with extensive experience in successfully working with the school level practitioner and the university level teacher educator. From their experience they were to react to the prepared presentations and to tie together selected key issues related to collaboration in teacher education.

COLLABORATION - SEE 'TREASON'

W. Robert Houston
University of Houston

The title of this paper is the sole entry in the University of Houston's library card catalog when one searches the index for resources on collaboration. It also reflects perceptions of some teachers, school administrators, and college faculty who feel they are collaborating with the enemy when they work together on teacher education. For others, collaboration is perceived as a positive movement in professional education. When research and studies of collaboration are examined, however, neither position seems defensible. More importantly, little is known other than lore and viscera reactions about how collaborative relationships are strengthened.

During the past few weeks, I have undertaken a comprehensive literature search on collaboration and discussed such efforts with persons who are studying or are engaged in the process. I have also drawn from my own experience in collaborative efforts; first, in program design within a university which crossed college and department boundaries; then in developing and studying a teacher center composed of professional associations, school districts, and university representatives; later in coordinating a regional technical assistance project that required collaboration among about fifteen funded projects; and finally within a state as a group of thirty-two teacher centers joined together in a network. This paper summarizes impressions from that study.

Considering the Concept of Collaboration

Before defining the term, several observations are pertinent. First, collaboration reflects and is embedded in a trend in American education that assumes that groups of institutions, agencies, and community representatives are more effective in solving the complex problems of American education than if independent and unilateral actions are taken.

I refer to this trend as the C part of the ABCs of education, because so many terms begin with this letter. Institutions join together in coalitions, cooperatives, councils, and consortia. They are concerned with their clients, communities, and constituencies. They cooperate, coordinate, and collaborate. The first set of C words refers to the organization of inter-institutional networks, the second to the membership of those networks, and the third to the processes or functions of such efforts.

The second observation about collaboration is that it is a relatively recent term when used in a positive sense. Until about seven years ago, "cooperation" was employed to describe the process used in alliances while "coordination" described the relations between a suprasystem such as state and federal agencies and systems such as local school districts. Both terms are gradually being replaced by "collaboration."

Third, the concept of collaboration is derived from political and philosophical assumptions relative to parity and involvement of clients in the decision-making process. The client of schools is the community; thus, schools are encouraged to involve community groups in decision making. In teacher education, the client is not the community but the education profession; thus, colleges of education are encouraged to collaborate with teachers and their organiations. The analogy is drawn from the position that just as schools are the training arm of society, teacher education institutions are the training arm of the profession

(Howsam, et al., 1976, p. 51).

Fourth, the paucity of research on collaboration is astounding. The literature is filled with case studies and observations. Many describe conditions, designs, and dreams. Very few even attempt to analyze their operations. Almost no consideration has been given to the study of cost effectiveness, procedures for improving operation, testing the validity of basic assumptions undergirding the concept itself, or impact of collaborative efforts on the institutions represented.

Twelve years ago this same charge was made at a conference similar to this one. "It's remarkable how little is known about interinstitutional cooperation. The literature is extremely limited and difficult to locate. That which exists is much more descriptive than analytical" (Howard, 1967, p. 97). Hopefully, that same assertion will not be made by another speaker at a conference twelve years from now!

What does collaboration mean and imply? Since it is often used interchangeably with cooperation, and since the two terms are historically interrelated, a comparison of their definitions provides some perspective for understanding the implications of research on collaboration.

Cooperate is defined in Webster's New World Dictionary as follows: "1: to act or work with another or others. 2: to associate with another or others for mutual often economic benefit." Collaborate is defined as: "1: to work jointly with others esp. in an intellectual endeavor. 2: to cooperate with or assist usu. willingly an enemy of one's country and esp. an occupying force. 3: to cooperate with an agency of instrumentality with which one is not immediately connected."

Both cooperate and collaborate emphasize work and both emphasize working with others. Cooperation includes as a defined purpose that the association is for mutual benefit. Collaboration is concerned with intellectual endeavors (e.g., literary, artistic, or scientific work).

Cooperation can be between or among individuals as well as institutions, while collaboration is more restrictive. It is an _institutional_ activity; institutions and agencies collaborate, not individuals. Individuals engaged in collaborative efforts do so with an institution or agency with which they are not connected. Individuals represent institutions in collaboration. Thus, they draw on the resources of those institutions and are constrained by the structure, goals, and processes of their organizations.

Hoyt (1976) extends the distinction between the two terms: "_Collaboration_ is a term that implies the parties involved share responsibility and authority for basic policy decision making . . . _Cooperation_, on the other hand, is a term that assumes two or more parties, each with separate and autonomous programs, agree to work together in making all such programs more successful. To 'cooperate' with another agency or organization carries no implication that one either can, or should, affect its policies or operational practices." Drummond and Neurnberger (1974) put the term in realistic perspective: "The word collaboration was chosen carefully; it was meant to include both the concept of mutuality of effort and the notion of working with the enemy" (p. 3).

Toward the Public Good

Collaboration among institutions has been strongly encouraged during the past fifteen years, particularly by federal agencies.* Prior to that time, federal grants were made to individual states, colleges and schools to assist them in carrying out their own programs. Beginning with Sputnik and accelerated by the Great Society legislation of the mid-sixties, federal funds were used to shape a federal mission. And, with that targeted direction, federal agencies encouraged collaboration to provide greater power. The Higher Education Act of 1965 (PL 89-329) encouraged cooperation between higher education and community agencies and between developing institutions and established ones. The Elementary and Secondary Education Act (PL 89-10) required schools to collaborate with other institutions. Since then, programs such as Training Complexes, Triple-T, Teacher Corps, and Teacher Centers have emphasized collaboration as an approach to improving education.

---

* Hughes, Achilles, Leonard, & Spence (1971) suggest 1965 as the "logical dividing point between basically _sub rosa_ activity and open implementation of cooperative activity" (p. 15).

The number of collaborative arrangements is large and growing. Conners, et al. (1974) estimated that there were 10,000 formal linkages among colleges and universities and between them and other institutions. However, no surveys have been conducted since Moore (1967) reported on his study of cooperative/collaborative institutional arrangements in 1965-1966. Schmieder and Yarger (1974) estimated that there were 4,500 collaborative teacher centers in the United States. L.D. Patterson (1975a) listed 106 consortia with 1,100 member institutions in the 1975 Consortium Directory. This compares with 31 consortia listed in 1968, 66 in 1971, and 80 in 1973. To be included, the organization must have been voluntarily formed, have a full-time professional director, have three or more member institutions, have multiple programs, and report tangible member support (Patterson, 1975b).

Collaborative arrangements have been used to prepare teachers as teacher educators (Brizzi, 1978; Houston, et al., 1977); for staff development (Lavin & Schuttenberg, 1972; Selberg & Peterson, 1971; Roper & Nolan, 1977); in Project Follow Through (Molnar, et al., 1975); and to improve methods for working with delinquent youth (Youth Community Coordination Project, 1977). Grupe (1972) described ninety-one cooperative arrangements among departments within universities; Schwenkmeyer and Goodman (1972) illustrated university collaborative experiences that promoted more diversified learning opportunities, and Pipes (1978) chronicled seven case studies of collaboration in teacher education.

Empirical studies of these collaborative efforts is virtually non-existent. Twenty-five centuries ago, the Greek scientist, King Thales, attributed his discoveries in astronomy to the extensive observations and data provided by his predecessors. Newton is quoted as having said that he had stood on the shoulders of giants. No such base for making hypotheses or comparing data from different collaborative efforts is currently available. Moreover, there is no strategy for collecting such data, no design for such an effort, nor any comprehensive effort to forge such a research program.

What is needed and needed badly today, if we are to report substantive research findings twelve years from now, is carefully documented descriptions and analyses of a wide range of collaborative efforts. A multi-disciplinary approach should be emphasized, with research conducted by teams of socio-anthropologists, futurist-oriented political scientists, organizational structurists, linguists, and teacher educators. The purpose is to derive hypotheses about collaboration and to test hunches currently extant. This is the first and major research need in this area.

An interesting contrast can be drawn between collaboration by public institutions and within the private sector of society. Collaboration is encouraged for public human service agencies, but deplored for private agencies.

> In the traditional economic model, competition is good because it results in maximizing efficiency and minimizing costs. But in the human services model, competition is bad because it results in less efficiency and greater costs. In business, duplication is good because it gives the consumer a choice, whereas in government work it is bad because it is wasteful and fragments service

> delivery. And finally, in the business world, coordination is called collusion and that is illegal, while we are encouraged to coordinate because it is in the public interest. (Esterline, 1976)

The implication for research is that studies of collaboration from the private sector may be inappropriate for the public sector. Motives differ, structures differ, and the intended outcomes (profit or increased public good) differ.

Organizing for Collaboration

Collaboration implies a new institution or quasi-institution, whether formally or informally organized. Five colleges in New England completed legal contracts to formalize a collaborative relationship. Thirty-two teacher centers in Texas organized a new network with bylaws. A school district in Kansas agreed to place student teachers and observers from Wichita State University. The first two collaborative efforts were formalized while the third was based on informal discussions.

Each of the primary collaborating institutions has its own organization, governance, and management structure; its own communication channels; its own power figures; its own decision-making process. Where it joins with others in a collaborative effort, new structures and processes are required. Even when the mission is restricted by the primary institutions, procedures are more complex since the alliance builds on and draws from the structures and processes of all institutions. A topology of collaborative structures is needed which includes both formal and informal organizational modes, and which relates collaboration to the structures and processes of the primary institutions involved in the consortia.

Several research questions following below are related directly to the structure of collaborative enterprises. Empirical studies of existing efforts could not only increase understanding of the complex relationships in collaboration, but lead to improved organization and management.

1. In what ways do collaborative efforts establish legitimacy (i.e., the right to exist)? The primary institutions typically are legally constituted bodies. To what extent, in what areas, and with what constraints is legitimacy relegated to the consortia by primary institutions? To what extent does legitimacy flow from outside that structure?
2. What types of authority do primary institutions delegate or invest in the collaborative relationship? What control mechanisms are employed to monitor processes and outcomes?
3. Power tends to flow downward in bureaucratic institutions such as school districts, professional organizations, and colleges of education. In collaborative efforts, what is the power flow and how does it interact with that of primary institutions? Who are the power brokers and opinion leaders? How do they gain this status? What are the sources of their power?
4. To what extent is the potential power of collaboration based on the extent of commitment to collaboration by primary institutions, centrality of the consortia's mission to society's goals, and perceived power and authority of the consortia by others?
5. To what extent is collaboration related to the similarity of missions of primary institutions? "In cases where organizations have nothing in common, they are unlikely to coordinate. If, on the other hand, they are almost identical, they are likely either to co-exist in cut-throat competition, or they may merge into a single organization. Thus,

the intermediate range of organizational similarity seems to be the most stable for interagency coordination" (Esterline, 1976, pp. 17-18).

6. Is the number of institutions in the collaborative effort related to its effectiveness? F. Patterson (1974) hypothesized that it is difficult to successfully collaborate with more than seven or eight institutions. Such an effort "will by its very nature involve conflict and compromise, and the larger the number of institutions involved, the more diluted (or disputed) the eventual product will likely be" (p. 12).
7. Is geographic proximity, as Orlosky (1977) hypothesized, related to effectiveness?

Communication

The interaction of relatively independent institutions leads to communication problems. Organizational units tend to limit the flow of information across unit boundaries. The inter-institutional flow tends to be more restricted than intra-institutional flow of information. Lines of communication are known within institutions but no such clear channels exist in collaborative efforts. Dialog at several institutional levels appears to be necessary--between operations personnel, between supervisors, and between chief administrative officers of collaborating institutions. These communication/decision-making channels may be formalized as Policy Boards, Management Teams, and Operations Units at the various levels. Communication among the various organizational levels within an institution, as well as between institutions at each level, appears to be important in collaboration.

If the director of a federally funded project with school-university collaboration has a problem with his counterpart, how is the problem solved? Does he go to the person's supervisor? Does he take his problem to his own supervisor who communicates with his counterpart in the other institution about the problem? With colleges and schools, this can be a complex process. Professors often work directly with teachers as colleagues in collaborative efforts. They also work with principals, the superintendent, and may report directly to the Board of Education. What to communicate and to whom is a communication problem faced in collaborative efforts. This is complicated by (a) the differing roles educators assume (e.g., teacher as well as professional association officer, Assistant Superintendent and graduate student); and (b) informal contacts among participants which are unrelated to the consortia.

In one of the few research studies of collaboration, Van Fleet (1975) systematically observed the interactions of a collaborative council. He found that the tempo of meetings was controlled by the project director who established the patterns of interaction and provided the most extensive and valid information from external sources to the council.

Because of the complex communication patterns involved in inter-institutional collaboration, and because this is considered the major problem facing collaborating institutions, a systematic study should be undertaken which considers (a) the institutional positions and informal roles of persons involved in communication; (b) the centrality of those persons to the collaborative process; (c) the kinds of messages communicated; (d) the form of interactions; and (e) the effectiveness of communication as based on clarity and accuracy of messages received and the affective support they engender.

Support and Reward Systems

While collaboration is an institutional endeavor, individuals participate in the collaborative activities. For them, collaboration is not a comfortable undertaking.

Collaboration requires people to extend themselves into unknown and less comfortable areas. University faculty are required to deal directly with day-to-day instructional problems, even though they may sense inadequacy in dealing with them in a specific school environment. Teachers work with researchers who use unfamiliar language and refer to studies and theory unknown to the teacher.

Conflicting institutional policies impact directly those persons who are collaborating. They are "on the front lines," and they often are working directly with people with whom their colleagues are not comfortable (a polite term for "the enemy"); e.g., teachers collaborate with college faculty, and administrators collaborate with professional organization officers.

Each of these role groups brings to the collaboration its own perspective of its worth and importance. These perspectives are evident in the reports of the various National Task Forces on the Improvement and Reform of American Education that were sponsored by the U.S. Office of Education in 1973-74. An analysis of those reports by Davies and Aquino (1975) concluded that with respect to inservice education, there was a "desire of relevant parties to (a) collaborate and (b) maintain their own power and status" (p. 274). "Higher education institutions feel that they have the primary leadership role because of their historic predominance in the realm of inservice education. Teachers feel that they should be the key members of a collaborative effort for inservice education because they have knowledge which can only be gained from daily experience with problems at the teacher/learner interface. School administrators feel that they should have the determining say in the development and delivery of continuing professional education for teachers because of their accountability for what happens in the classroom" (p. 275).

In this environment, it is the responsibility of those individuals collaborating to represent their institutions. Institutional political and social climate should be communicated to others in the endeavor, and an ideology alien to others should not be dogmatically advocated (Drummond & Baker, 1974, p. 34). Participants are likely to be criticized by those from other institutions for their positions and by those in their own institution for not being strong enough in negotiations.

Particularly for university faculty, such time consuming efforts are seldom rewarded. Scholarly papers and institutional committee assignments are more visible, thus more readily recognized. Individual achievements are rewarded, not group efforts, and collaboration is a group effort.

Within this context, a new affiliation arises among the individuals directly involved in collaboration. Often rejected or ignored by the reward systems of their own institutions, a camaraderie develops within the group; it gains strength as members better understand the various positions in the groups and as the group faces adversity. Study of the development of this new relationship, and the changing relation between members of the team and their institutional colleagues during collaboration, is an important missing link in understanding institutional change.

The support of the chief administrative officer appears to be related to the success of collaborative efforts (F. Patterson, 1974). Greater support appears to be generated when the communication and reporting lines between representatives of an institution and the chief administrative officer are shorter. Resources are more easily secured the first time from institutions than in later requests (Kraus, 1974). These hunches have been discussed by those speculating about collaboration, but no data are available supporting them.

Strategies and Tactics

The Carnegie Commission (1972) noted that "a good many of the consortia are paper arrangements with little significance in practice" (p. 128). The same charge can be made about many collaborative efforts. The literature includes numerous projections of collaboration, proposals for what will be accomplished, and project prospecti. When reports of programs are analyzed, they appear to be primarily "paper arrangements." One institution initiates and dominates the effort. Few people, even in collaborating institutions, are aware of its existence. And when the collaboration ends or fades away, little or no residual remains to impact primary institutions.

From an examination of such reports, several hypotheses seem to emerge concerning strategies employed. First, successful relationships are more likely to emerge incrementally and to grow with small, successful previous encounters (Esterline, 1976). Second, collaboration is facilitated when there are "clear-cut, agreed-upon goals and functions" (F. Patterson, 1974, p. 13; Drummond & Neurnberger, 1974, p. 5). Third, short-term goals and objectives, when achieved, promote positive perceptions and engender further progress. Fourth, assumptions and collaborative decisions tend to be based on personal experience and educational lore rather than research or data. Fifth, collaborative goals and strategies often appear unstable because of changing roles, needs, and pressures of the primary institutions, and shifting interests of those persons involved. Sixth, more formal structures and routine procedures occur when there is greater intensity of contacts between institutions, greater frequency of contacts, greater variety of types of resources, and larger resource commitments to the effort (Esterline, 1976). Davies and Aquino (1975) suggested three other hunches about strategies and tactics. "The effectiveness of any collaborative effort will hinge on the abilities of participants to (a) accurately and honestly assess their capabilities and those of their partners, (b) design administrative and programmatic structures which capitalize on these strengths, and (c) develop an atmosphere of trust so that no member of the collaboration feels that he or she is being preempted" (p. 276).*

Some of these hypotheses are rooted in lore, some in studies of institutional change, and some in personal experiences with collaborative efforts. Most are derived from very limited experience and information, and some based on institutional rather than inter-institutional strategies. All need to be tested in a variety of collaborative arrangements. Because of the unique nature of collaboration, effective practice in other settings may be inappropriate or ineffective.

Cost-Benefit Analysis

The major decisions of most institutions are based on benefits and costs of collaboration. Benefits of collaboration include improved educational programs, increased power, and decreased costs. Several school districts improved their programs for urban youth by collaborating with business, and industry (Branch, 1977). Colleges and R&D Centers are collaborating with schools to study teaching in natural settings (Tikunoff & Ward, 1978; Coker, Soar, & Lorentz, 1977). In Texas, the State Board of Education, Texas State Teachers Association, and Texas Association of Colleges for Teacher Education are collaborating to pass legislation funding teacher education centers. Sharing library resources, computer facilities, and instructional or office space are other examples of cost-saving practices.

The costs of collaboration are not always so evident. They include some loss of institutional autonomy as well as institutional contributions to the enterprise.

Each institution develops its own internal functions, values, procedures, and rewards. When it collaborates with another institution some measure of that autonomy is eroded.* As institutionally-oriented processes interact with those from another institution, friction occurs at the points of interaction, and the heat generated can flow to the heart of both organizations.

---

* For other hunches about collaborative strategies, see Kinzer & Drummond, pp. 23-24; Mann, pp. 22-23; and Drummond & Neurnberger, 1974, p. 5.

Institutions contribute the time and talents of their employees, financial resources, and political capital to the collaborative effort. The most common comment of those involved in collaboration is, "It takes so much time!" The internal power structures and time-saving management procedures do not function in the same way in interinstitutional collaboration and must be developed, tested, and redefined. The talent drain in building and maintaining collaborative arrangements has not even been chronicled, much less analyzed. Each institution also invests its reputation and political strengths in collaborative alliances, and, to the extent that this investment erodes other alliances, must be considered as a hidden cost of collaboration.

The interaction of increased benefits and decreased costs, or at least a more productive cost-benefit ratio provides the basic rationale for collaboration. In the public domain, it is intuitively assumed that collaboration leads to greater benefits at less cost; however, this has not been documented nor tested empirically.

---

* Wood (1973) listed ten ways in which autonomy is eroded by collaboration.

References

Branch, H. M., Shorthaus, N., McWilliams, J., & Keating, T. *A model for school-community agencies cooperation for educational effectiveness in an urban area*. Paper presented at the annual meeting of the American Educational Research Association, New York, 1977. ED 142 649.

Brizzi, E. N. *Trainer-of-trainers: A collaborative approach to inservice staff development*. Los Angeles: University of Southern California, 1978. ED 151 327.

Carnegie Commission on Higher Education. *The more effective use of resources: An imperative for higher education*. New York: McGraw-Hill, 1972.

Coker, H., Soar, R. S., & Lorentz, J. *Process-product research in the real world: An attempt to develop and validate a competency-based teacher certification system*. Symposium presented at the annual meeting of the American Educational Research Association, New York, 1977.

Connors, M. A., et al. *Guide to inter-institutional arrangements: Voluntary and statutory*. Washington, D.C.: American Association for Higher Education, 1974.

Davies, H. M., & Aquino, J. T. Collaboration in continuing professional development. *Journal of Teacher Education*, 1975, *26*(3), 274-277.

Drummond, B., & Neurnberger, A. The Florida collaboration model project (A very strange bird). *Proceedings of the national conference on collaboration*. Gainesville: University of Florida, 1974.

Drummond, W. H., & Baker, M. D. *A state of the art re research on collaboration in teacher education*. Tallahassee: Florida Department of Education, 1974.

Esterline, B. H. Coordination: *A conceptual model and practical consideration*. Paper delivered to the Education Commission of the States' National Seminar on State Capacity Building, December 1976. ED 140 460.

Grupe, F. H. *Inter-institutional cooperation at the departmental level*. Potsdam, N.Y.: Associated College of the St. Lawrence Valley, 1972. ED 090 901.

Houston, W. R., Cooper, J. M., & Warner, A. W. *School based teacher educator project: Report of second year activities*. Houston: University of Houston, 1977. SP 011 355.

Howard, L. C. Inter-institutional cooperation in higher education. Proceedings of a conference, Wingspread, Racine, Wisconsin, March 1967. ED 034 482.

Howsam, R. B., Corrigan, D. G., Denemark, G. W., & Nash, R. J. Educating a profession. Washington, D.C.: American Association of Colleges for Teacher Education, 1976.

Hoyt, K. B. Community resources for career education. A report on two mini-conferences held in 1975-76 by the Office of Career Education, USOE, under contract with the Center for Vocational and Technical Education, 1976.

Hughes, L. W., Achilles, C. M., Leonard, J., & Spence, D. Interpretive study of research and development relative to educational cooperatives. Knoxville: College of Education, University of Tennessee, 1971.

Kinzer, S. M., & Drummond, W. H. Parity and educational problem solving: A progress report. In R. James & R. Brown (Eds.), Emerging concepts for collaboration (Bulletin #40). Washington, D.C.: Association of Teacher Educators, 1975.

Kraus, W. A. Developing an applied behavioral science alliance for campus change. Two approaches to collaboration and change in higher education (Audiotape). Los Angeles: CREDR Corp., 1974.

Lavin, R. J., & Schuttenberg, F. M. An innovative approach to public school staff development: A collaborative mode. Chelinsford, Mass.: Merrimack Education Center, 1972. ED 069 602.

Mann, M. Cooperation--it's worth all the pain! Papers on collaboration and teacher preparation. Albany: The University of the State of New York, n.d.

Molnar, A., Moburg, L., Podeschi, R., Pollard, D., Kirkhorn, J., & Joyner, V. Project follow through: Interdepartmental collaboration. In R. James & R. Brown (Eds.), Emerging concepts for collaboration (Bulletin #40). Washington, D.C.: Association of Teacher Educators, 1975.

Moore, R. S. Consortiums in American higher education: 1965-66. Report of an exploratory study. Washington, D.C.: U.S. Government Printing Office, 1968. ED 051 728.

Orlosky, D. E. Organization and implementation of consortia. In K. Maddox & J. Mahan (Eds.), National ATE commission for consortium study and development, final report. Washington, D.C.: Association of Teacher Educators, 1977. ED 137 305.

Patterson, F. *Colleges in consort*. San Francisco: Jossey-Bass, 1974.

Patterson, L. D. *1975 consortium directory*. Washington, D.C.: American Association for Higher Education, 1975a.

Patterson, L. D. *Evolving patterns of cooperation*. Washington, D.C.: George Washington University, ERIC Clearinghouse on Higher Education, 1975b. ED 114 003.

Pipes, L. (Ed.). *Collaboration for inservice education: Case studies*. Washington, D.C.: ERIC Clearinghouse on Teacher Education, 1978.

Roper, S. S., & Nolan, R. R. *Down from the ivory tower: A model of collaborative inservice education* (Occasional paper No. 16). Stanford, Calif.: Stanford Center for Research and Development, Stanford University, 1977. ED 137 261.

Schmieder, A. A., & Yarger, S. J. *Teaching centers: Toward the state of the scene*. Washington, D.C.: American Association of Colleges for Teacher Education, 1974. ED 098 143.

Schwenkmeyer, B., & Goodman, M. E. *Putting cooperation to work: A survey of how voluntary cooperation is helping colleges and universities*. Washington, D.C.: Academy for Educational Development, 1972. ED 063 878.

Selberg, E. M., & Peterson, K. Collaborative practices between elementary school districts and a college in retraining teachers for quality science education. *Science Education*, 1971, *55*(2), 115-123.

Tikunoff, W. J., & Ward, B. A. Insuring reliability and validity in competency assessment. *Journal of Teacher Education*, 1978, *29*(2), 33-37.

Van Fleet, A. A. *Structure and process in collaboration: Florida's collaborative model project as a case study*. Gainesville: University of Florida, 1975. ED 111 793.

Wood, H. H. *Consortia: A challenge to institutional autonomy*. Speech presented at the annual meeting of the Association of American Colleges, San Francisco, January 1973. ED 074 932.

EXPLORING ISSUES IN TEACHER EDUCATION: QUESTIONS FOR FUTURE RESEARCH

G. Charlette Kennedy
Eaton Rapids, Michigan

Collaborative Inquiry: A Practitioner's Perspective

CCollaborative inquiry as a research strategy is not,t under most circumstances, viewed as a vehicle for professional development. Traditionally, planned professional development programs for K-12 school staffs have assumed that teachers' performance is inadequate. Historically, such programs have been concerned with providing prescriptions for altering teachers' cognitive states, and/or the material features of their environment. Although some teaching behavior is thought to be related to one's self-perception (i.e., esteem, role and expertise) little is known about the relationship between quality of intervention programs, teacher self-perceptions and the behavioral manifestations of those self-perceptions.

An IRT sponsored project has examined the qualitative dimensions of relationships between teachers and researchers that produce the most professional growth in participating teachers and the most fruitful research. All teachers who had participated collaboratively with researchers in studies of teachers' behavior described their research involvement as beneficial in terms of the opportunity it provided for reflection. For example, several teachers pointed out that much of teaching involved reacting to the multiple cues emanating from the classroom, an environment which is characterized by a set of uncontrollable and relatively unpredictable contextual variables. The opportunity and time to think, to probe, to ask "why," and to share the experience with another adult as "peer" filled a void that teachers often labeled "isolation."

At the initial stage of their involvement, teachers were generally concerned and asked questions about the following aspects of their research participation:

1. Will I have to "perform," or may I continue to teach, speak, think and/or write as I normally do?

2. How will my participation impact what occurs in the classroom on a daily basis?

3. What kind of time commitment is expected from me? How much time will the researcher spend with me?

4. How will my students, their parents, my colleagues, and/or my building administrator react to my involvement?

5. Will I be kept informed of project progress?

The researchers' responses to these and similar questions provided the means by which teachers initially assessed the relative credibility of the researcher, the value of the project, and their own role and function as research participants.

These questions and the researchers' responses also provided teachers with cues used to assess the extent of impact the participation would have on their existing relationships in the school setting. Schools are characterized by an intricate array of formal as well as informal networks which are held intact by unique, consensual rules. These unwritten rules, or "social contracts," help to establish and maintain certain kinds of teacher/pupil, teacher/teacher, teacher/parent and teacher/administrator relationships. The entry of the researcher can pose a possible shift in what oftentimes is a critical, if not delicate, balance.

Depending upon the margin of risk that the teacher perceives relative to his/her social contract, short-term (one year or less) research participation is seen as beneficial, regardless of the qualitative dimensions of teacher/researcher interactions. If long-term and/or sustained participation is desirable or necessary, the termination of the interaction becomes as important as initiating and maintaining the relationship.

Collaborative Roles

The variety of ways in which teachers can participate in research is multidimensional and multi-faceted. Implicit here are the notions that collaboration is a dynamic rather than a static process and that teachers assume roles which are congruent with the mode of inquiry. Four teacher collaboration roles have been identified.

Model: The professional performance of a teacher is observed in the classroom by the researcher. Later, the teacher is interviewed or provides similar verbal feedback (e.g., stimulated recall) for the researcher concerning instructional practice.

Model/Participant: Professional performance of a teacher is observed in the classroom. Periodically, the teacher receives verbal and/or written feedback from the observer. Often, the feedback stimulates focused dialogue which may, in turn, lead to formulation of research questions.

Data Collector: The teacher collects classroom data or otherwise documents some aspect of classroom activity. Periodically, the teacher meets with the researcher to discuss and interpret protocols, work samples, etc.

Co-Investigator: The teacher works with the researcher in a university, Research and Development Center, or other non-school settings. The teacher assists in formulating research questions, in planning for data collection and (depending upon the length of the project) in interpreting results.

Teacher/Researcher Collaborations in Teacher Education

Teachers can broaden the problem space in which studies of teacher education are conceptualized by:

- describing and evaluating learners' responses to selected instructional material, procedures and programs
- articulating the variables which influence their choices about the organization, structuring, sequencing and pacing of instructional events
- describing the effects of their attention to multiple cues over sustained periods of time
- identifying those non-instructional aspects of teaching which affect classroom interactive processes and procedures

In view of the critical need for the replication and cross validation of research findings, and the inherent power replication and cross validation have for theory development, it will be useful to examine a variety of roles in which teachers' perceptions, insights and practical wisdom can be incorporated in teacher education research efforts.

As models, practicing teachers could demonstrate various classroom organizational, management and observation techniques and strategies.

As model/participants, practicing teachers could provide researchers with insights regarding the critical variables influencing their methods of instructional organization. The researchers, using various observational strategies, would be able to generate hypotheses about many features of the classroom environment which produce differential effects upon teaching activity as well as learner performance.

As data collectors, some practicing teachers would be able to carry out prescribed experimental treatments in a variety of different settings. The collected data should yield some valuable findings with respect to the antecedents and consequences of specific kinds of instruction. Moreover, the theory and practice of teaching will benefit to the extent that teachers in collaboration with researchers, can add to, clarify, or negate findings as a result of the replications and testing of variables believed to be causal in a variety of settings.

Another alternative role for teacher collaborators is that of co-investigator. Such persons would possess some formal knowledge of research processes and procedures in addition to being skilled practitioners. In the role of co-investigator, teachers would be engaged in all phases of research, from the design and implementation of a study to subsequent interpretation and dissemination of findings. This kind of collaboration represents a synthesis between the teacher's practical wisdom and the researcher's scientific knowledge.

Another possible role for the teacher collaborator is that of resource consultant. Practitioner consultants would have acquired a broad base of teaching experience as a result of having worked in a variety of educational settings and/or subject matter areas. Such persons would be familiar with numerous school organizational procedures and practices and a variety of instructional materials and would be skilled in the analysis and communication of classroom dynamics in terms understandable to both researchers and practitioners. In short, the practitioner resource consultant is a person who is able to function comfortably and productively in numerous settings throughout the educational community (e.g., schools; education associations; universities; local, state and federal education agencies).

The Nature of Collaboration

Collaboration is a mutually beneficial division of labor between constituent members of the educational community (i.e., researchers, teacher educators and school personnel, teachers and administrators). In the division that is envisioned, researchers working collaboratively with teachers, university and school-based teacher trainers would systematically identify and codify teaching behaviors that assist neophyte and experienced practitioners in meeting the instructional and non-instructional demands posed by the classroom environment. Joint efforts would eventuate in a body of theoretical knowledge grounded in the study of classrooms in the institutionalized contexts.

Teacher educators, working collaboratively with researchers, teachers, and appropriate school administrators, would translate and otherwise incorporate research findings into program designs (curricula and course descriptions) which assist the pre- and inservice practitioner in developing appropriate instructional and non-instructional strategies or procedures for meeting the demands posed by classroom environments.

School personnel (teachers and administrators) have the greatest direct impact on students and schools. As "final arbiters of classroom practice," teachers possess a store of knowledge regarding the array of variables influencing the school milieu and classroom environments. This knowledge is central to the proposed tasks for researchers and teacher educators.

Closing Thoughts

The following excerpt from an interview with a teacher collaborator epitomizes the critical challenge that faces researchers, teacher educators, and K-12 practitioners.

Q. What did you want to learn from him (the researcher)?

A. First of all, what he was doing. I was so curious about what he was doing. What would all this . . . what could possibly come out of it? You know, I'm one teacher. How much could he pick up just from me of benefit to anybody else? How would they use it once they had accumulated the data? How could it be used to help any other teachers? I can see now that it could be of some use, taking exactly how I work and how I plan and put it together with what the other researchers are finding and see if there is a common basis for all of us and then some way of getting that across to teachers coming into the field. I always said there needs to be a lot more technical data given to them and a lot less philosophy. You walk in with all philosophy but you have no idea on how to handle a child, (or) how to plan an art lesson. You know, it's so obvious, these kids come in. I had a student teacher come in, well I'm teaching our lesson, O.K. fine. But when it came one o'clock and the kids were here and she didn't have the paper ready, she didn't have the pencils ready, she didn't have the crayons, she didn't have the paint, you know, none of this. She had no idea. And I thought well, the only way she is going to learn isn't going to be from me to tell her but for her to find it's a bust. But those are the type of things that kids don't come in knowing. They don't come in (School District E) knowing at the interview what kind of reading series you want to use, why, and what's the basis for that text. I told him (the interviewer) I couldn't answer that question. I had never been introduced to any reading series. In (School District E) you have your choice. There is every reading series you can think of available in this district and you gotta know that this one's good for this kid but it's too hyperactive for that kid and it's too fast for this one but this one works great. You have to learn all of that. And it should be taught before they ever get here.

This teacher and many others spend a great deal of time in organizing and planning for learning experiences; in structuring subject matter so that the substance or content of teaching episodes follows some logical and sequential progression; and in the monitoring or observation of children (their behavioral characteristics, social interaction patterns and responses to specific materials and activities). In addition, learner performance is documented and reported on some periodic basis.

A desirable agenda for teacher education research from the classroom practitioner's perspective is that of defining the types of behaviors which distinguish the neophyte from the experienced classroom teacher. Systematic studies of the maturation of teacher judgment and decision-making skills would eventuate in a developmental hierarchy of teaching skills which, in turn, could be translated into teacher education curricula and programs. More importantly, such inquiry may lead to more definitive criteria for identifying, judging, and increasing teaching effectiveness.

PARTNERS: TEACHERS, RESEARCHERS, TRAINER/DEVELOPERS--AN INTERACTIVE APPROACH TO TEACHER EDUCATION R&D*

William J. Tikunoff, Beatrice A. Ward
Far West Laboratory for Educational Research and Development

Charlotte Lazar
San Diego Unified School District

One experience common to adult Americans is that we all have "gone to school." This seemingly simplistic observation takes on important dimensions when viewed in light of statistics such as the following. As of 1976--the latest figures available according to the National Center for Education Statistics--64% of American adults 25 years old and older had completed high school. In that same year, almost 45 million children were enrolled in the nation's public K-12 schools, being taught by more than 2 million classroom teachers. Public schools spent 67.3 billion dollars, amounting to $31,042 per classroom teacher or $1,497 per pupil.* To contrast, the nation's defense budget for 1975 was 89 billion dollars. Obviously, public education justifiably is perceived by taxpayers as "big business," and the increasing cries for accountability in light of declining achievement test scores attest to the level of concern that exists.

---

*The authors wish to acknowledge the support of the National Institute of Education, Department of Health, Education and Welfare. Many of the thoughts that underlie this discussion are the result of work done under NIE Contract NE-C-003-0108 and NIE Grant OB-NIE-G-78-0103 to the Far West Laboratory for Educational Research and Development, San Francisco, California. The opinions expressed here do not necessarily reflect the position or policy of the Institute and no official endorsement by the National Institute of Education should be inferred.

We present these figures to draw attention to the critical nature of the task set before this conference. To further escalate the paranoia we might be sharing, we offer the ironic suggestion that, at a period in our history when we are experiencing a decline in public school enrollment and a resultant oversupply of teachers, we simultaneously are faced with the prediction that the mid-1980's will find us with an increasing school age population and a potential shortage of teachers. Musemeche and Adams (1978) point to three factors which suggest that this may be so: (1) the declining enrollment in teacher training institutions; (2) the projection by the U.S. Bureau of Census that the birthrate will increase from 14.7% of the population in 1976 to 17.1% in 1985; and (3) the simultaneous retirement of scores of teachers who were hired in the late 1950's to accommodate the post World War II "baby boom."

A study sponsored by the National Institute of Education in 1977 further supports the possibility of an increasing school age population. It suggests that the number of school age children will increase by approximately 4.4

---

*Statistics such as these are hard to come by but serve the purpose of illustration. Purists should note further that the figure for the total number of teachers is for 1975 (for some reason, a figure was not available for 1976), and that these data are collected from three documents, each citing the National Center for Education Statistics as their source: Information Please Almanac Atlas and Yearbook (1978), N.Y.: The Viking Press, 1977; USA Statistics in Brief 1977: A Statistical Abstract Supplement, Washington, D.C.: U.S. Government Printing Office, 1977; and Jeffrey W. Williams and Sallie L. Warf, Education Directory: Public School Systems, 1976-77, Washington, D.C.: National Center for Education Statistics.

million in the 1980's.* In addition, a report to the National Teacher Development Initiative, U.S. Office of Education (Howey & Feistritzer, 1978) notes that: (1) the current imbalance in teacher supply could begin to change for elementary teachers by the early 1980's; (2) manpower shortages already exist in terms of qualified personnel in areas such as special education, bilingual education, vocational education, and inner-city and rural populations; and (3) there is a rapidly accelerating need for teachers and other educational personnel in early childhood and continuing adult education.

Thus, given that a new supply of teachers will be needed in the 1980's, it is fitting and proper that we attend to establishing a national agenda for research on teacher education. Presumably, such research will inform the design of teacher training programs in ways that will incorporate new information and address the criticism of current graduates of such programs. For, as Lortie (1975) and others have pointed out, teachers, indeed, are critical of the preparation they received. One could postulate that training teachers for the 1980's utilizing both information and technology which has not changed much since the 1960's would be tantamount to ignoring these criticisms.

Within the scope of this conference, we have been asked to address the topic of *collaboration* and to focus on attendant issues within teacher education research. In order to do so, we will apply insights gained from our experiences developing and studying the pilot implementation of a research and development strategy that we call Interactive R&D on Teaching (IR&DT). Thus, in presenting our views regarding collaboration, it will be helpful first to describe the strategy and to offer as an example of its use

---

*The study sponsored by NIE is *The Demographic Background to Changing Enrollments and School Needs*. It is reported in *Information NIE*, National Institute of Education, Washington, D.C., Summer 1977.

the experiences of one of the IR&DT teams who implemented it. Next, we will explore the nature of collaboration inherent in the strategy. Finally, we will suggest some recommendations for teacher education research which have emerged from our study of IR&DT.

The Interactive R&D Strategy: An Alternative

Traditionally, educational research and development has been conducted within the parameters of what can be perceived as a linear model comprised of four primary functions, each of which in practice has been deemed to be discrete and separate. These are research, development, dissemination, and implementation. Theoretically, this model proposes that findings from research can be developed into products (e.g., curriculum for students, training for teachers, etc.) which then can be disseminated to the target clientele and implemented by these persons in classrooms around the nation. Ward and Tikunoff (1976) have argued that this linear model is based on several questionable premises, the most glaring of which is exclusion from the research and development process of the intended consumer, in this instance, the teacher. This conceptualization of the teacher as a passive consumer at the end of a linear research and development continuum is seen as accounting, in part, for the failure of many educational innovations.

Ward and Tikunoff also contend that the linear r&d model has produced constituent groups, each responsible for a separate process in the r&d continuum and each isolated from the others. Thus, for example, researchers tend to talk to researchers and teachers tend to talk to teachers, but they seldom talk with each other. In research on teaching and in teacher education, this imposed isolation, reinforced by increasing specialization within each area, further escalates the feeling of isolation reported by teachers who are asked merely to utilize r&d outcomes rather than to be involved in the r&d process beginning with the inception of the research. As a result, teachers frequently have been given answers to questions that they never asked. When asked to apply research findings in their classrooms, they have found language common to the research, development, dissemination, and implementation groups to be largely unfamiliar and uninterpretable.

To mitigate these concerns, as well as to address others,* we proposed an alternative research and development strategy (see Ward & Tikunoff, 1976). The title, Interactive R&D on Teaching, was selected purposefully to give prominence to the undergirding principles of strategy. IR&DT places teachers, researchers, and trainer/developers** together to inquire as a team into those questions, problems and concerns of classroom teachers. An IR&DT team is charged with conducting research and concurrently developing training for other teachers based on both their research findings and the research methods and procedures employed in their study. Decisions are made collaboratively. For IR&DT this means that each member of the team has parity and shares equal responsibility for decisions made by the team, from identification of the question/problem through completion of all resultant research and development activities.

---

*Among these are those concerns which grow out of public criticism of the linear research and development model [cf., House (1975), Clark & Guba (1965, 1974), Berman, Greenwood, McLaughlin & Pincus (1975)].

**The term "trainer/developer" is meant to apply to those engaged in the process of training teachers and/or developing strategies or products to train teachers--either preservice or inservice. This constituency usually will include teacher educators at an institution of higher education (a teacher training college, for example) as well as persons responsible for professional staff development, either in a local education agency or serving several public schools and/or systems. Others may include themselves in this group, however (e.g., persons responsible for staff development at an intermediary education agency or at the state level, persons developing training products in an educational laboratory or center, etc.).

Underway since 1976 at the Far West Laboratory under funding from the National Institute of Education, IR&DT has been implemented at two sites. The study foci have been: (1) the effects of the strategy on the participants, on their respective institutions, and on others with whom they interact; (2) the quality and usefulness of both the research findings and training strategies produced; and (3) potential policy implications for consideration by NIE in funding future research and development efforts. During implementation, which took place over 15½ months, between August 1977 and November 1978, extensive data were collected.* Tape recordings of every team meeting, interviews with participants and others with whom they interact, on-site observation of team meetings and in teachers' classrooms, participant logs and journals, participant questionnaires, etc., form this data base. The data currently are being analyzed, and an implementation and policy implications report will be produced by May 1979. In addition, the research and training reports completed by each team are being submitted to a judicial process. Juries composed of various constituents reflective of team membership (i.e., teachers, researchers, teacher educators, staff development persons) will judge the knowledge and training outcomes of each team's efforts in regard to: (1) the rigor with which the research and training were conducted, and (2) the usefulness of the research findings and training strategies to other teachers, researchers, trainer/developers. These results will be included in the implementation and policy implications report.

While the IR&DT implementation and policy report is just now being completed, several preliminary insights are available and are relevant to future research in teacher education. In particular, the experiences of IR&DT team members can inform a national agenda for teacher education research. To provide these insights, we asked the San Diego IR&DT team to participate in developing this paper. Charlotte Lazar, a teacher from the team, is their representative. Her account of the team's experience appears as the next section.

---

*The study of the implementation of IR&DT is being directed by an independent research, Gary A. Griffin, Teachers College, Columbia University. He is assisted by the Principal Investigators, and is given advice by members of a National Advisory Panel for IR&DT.

IR&DT in Operation: The San Diego Experience

A group of four teachers, a researcher (an evaluator for the school district) and a trainer/developer (a resource teacher responsible for the professional growth of teachers) comprised the San Diego IR&DT Team. This team spent fifteen months determining a question, collecting data, analyzing the results, writing conclusions, developing an inservice class so that other teachers would benefit from their endeavors, and reporting the outcomes of their work.

The question the team decided to study is "What are the strategies and techniques which classroom teachers use to cope with distractions to classroom instruction and how effective are the techniques?" Effectiveness was measured by three variables: (1) the instructional time lost due to the distraction; (2) the degree to which the flow of instructional activity was interrupted; and (3) the degree to which the distraction was eliminated after a coping technique was used.

The research design included the use of two nonparticipant observers who collected data on nine different occassions in each of eight teachers' classrooms.* One observer used a quantitative checklist which the team had devised to determine the effectiveness of each coping strategy. The other observer used a qualitative strategy, recording ethnographic, descriptive data about what occurred in the classroom. The teachers utilized both data sets to get a full picture of what was occurring in their classrooms. Retaining a naturalistic setting was stressed during this data collection process.

After the data were analyzed, the team devised an inservice course entitled "Coping with Classroom Distractions, or Please Take a Number, I'll Be Right with You." Twenty-three teachers participated. As part of the training, they paired up to observe one another to determine what distractions occurred in their classrooms and how they coped with them. Interaction among course members was encouraged so that the teachers could determine new coping strategies.

Insights of teachers who completed the inservice course include:

> . . . I feel finally a research project has been done that makes some sense to teachers and reflects what really is going on in the classroom.
>
> . . . This project has made me feel good knowing that other teachers have the same problems as I; and I have been coping with distractions as well as anyone else.
>
> . . . I would love to do this again, including the observation of someone at a school different from my own. The results were helpful rather than threatening and I wish more people could have this experience.

---

*Subjects for the San Diego IR&DT Team study included the four teachers on the IR&DT Team and four other teachers not familiar with the IR&DT process. The four additional teachers were selected to mirror as closely as possible the four teachers on the IR&DT team in terms of class population and teaching style.

. . . Positive feedback by my partner was enjoyable to hear.

. . . This class, "Coping with Distractions," has been very stimulating to me and will no doubt affect my teaching style in the future. Before taking this class I had not given much thought to the number and variety of distractions teachers face each day, or the types of coping techniques that I personally use in the classroom. Now I am more aware of the variety of coping techniques I use and will attempt to improve upon them.

. . . The study should definitely be limited to teacher-on-teacher observation. Even then, gimmicks, such a finger-plays, "moving songs," etc., were mistaken for instruction rather than coping.

. . . I had previously regarded distractions as largely negative--but notes and comments indicate a large number of positive ones.

. . . To be truthful, my style of teaching has not changed a great deal due to involvement in this program. However, I have gleaned several tidbits which I now incorporate as daily strategies. The idea of secret messages, e.g., ear tugging, was a great one and has been most effective. Also, an increased awareness of distractions which take root in the physical environment. And others too numerous to mention.

. . . Other staff members have become interested in this distraction study. Several teachers and ancillary personnel have become more aware of themselves as distraction creators and searched for ways of eliminating or minimizing their interruptions during class time.

. . . Who will read the findings of this study? Can we hope for feedback from the Ed Center? Will followup studies suggest preventative techniques? Will administrators be trained to check distractions as a means of increasing teaching time and reducing stress?

During the identification of the research question, conduct of the study combined with concurrent design of the training program, analysis of the research data, conduct of training, and final reporting, the San Diego IR&DT Team faced various problems. Thus, to aid future groups who attempt a project of this type, the following recommendations are suggested by the San Diego Team:

1) A definite commitment to the total process is essential.
   As a cautionary note, the process is time-consuming. It is recommended that other commitments be kept to a minimum so that enough time can be set aside for each phase of the project.

2) School district and administrative support are important.
   Many logistics (such as substitutes, budget items, etc.) were handled by the district and without this support the project would have been more difficult to pursue.

3) At least two teachers on a team should be at each participating site.
   In San Diego's project, three teachers were at one site and one was at another site. The three teachers at the same site had definite advantages over the one teacher. They were able to interact more, had better communication with others, and, as a result, became better organized and got tasks done faster than the teacher at the other site. The importance of multiple participants at a given site also was voiced by inservice training participants. A teacher commented:

   > . . . I've found it helpful to have two teachers from my site involved. This has given us a chance to reflect on, share, and discuss ideas and experiences.

4) The project should begin during late spring.
This recommendation allows time for the question to be determined, a research design to be established and field-tested before the opening of school, if necessary. Many potential questions that would require data collection from the first day of school can then be considered.*

5) Adequate time should be allowed for each phase of the project.
Because the San Diego Team had deadlines to meet, some of the tasks were not completed as they would have wished. Problems arose during the data collection and analysis phases because of an inadequate amount of time for the field-testing of the data collection and data analysis methodology. Plenty of time must be allotted so that problems can be worked out before continuing to the next phase of the r&d effort.

6) Interaction with other colleagues is a necessity.
The team found that interaction with colleagues not involved in the project was essential, especially during the period when they were determining a question to be studied. The team members found they became narrowly focused on what they wanted to study; talking with other people made them aware of more possibilities to consider. Other people also were used throughout the effort for technical assistance, critiquing, etc. The team found these people to be helpful and objective.

---

*This suggestion grows from the fact that, because of funding cycles, it was necessary to organize IR&DT teams over the summer and orient them in August so that they could begin working at the beginning of the school year. It is interesting to note that the San Diego Team suggests here that the start-up of school contains important information for research to consider--a point that we are able to corroborate in our own research.

7) Classroom observations by team members are highly desirable.

Each teacher involved in the study found observing in other classrooms to be beneficial both for determining distractions and coping techniques, and for gaining perspective on teaching as a whole. A teacher who was involved in the inservice course had the following insight on this subject:

> . . . I feel that inservice programs which incorporate in-class observations of normal teaching situations are most beneficial in that they promote a form of self-awareness. In a way, we become the observer in our room and see, more objectively than usual, exactly how our various programs are conducted. This, in turn, produces varying degrees of insight and rumination, both of which are invaluable for the constant ongoing evaluation that effective, dynamic teaching requires.

8) The use of qualitative, ethnographic data is encouraged.

Because the San Diego Team used this method (quantitative methods were also used) each teacher was able to glean from the running, descriptive narrative what actually was occurring in the classroom from a nonparticipant-observer's viewpoint. A total picture could be recreated rather than just bits and pieces which would be obtained solely from quantitative feedback. The team also wishes to point out the delicacy of the ethnographer's task as certain words or phrases might create a misconception of a teacher's style.

9) Final writing should be done during the summer.

The final write-up of the San Diego project was done during the summer months. The members found this to be an opportune time as it gave them time to interact on a regular daily basis. The members felt that if the writing had been required during the school year, the demands would have been overwhelming and stressful.

The team is unanimous in reporting that their views of educational research have changed as a result of the IR&DT experience. This is particularly evident in the teacher's viewpoints. Previous to the project, their views of research primarily were negative--a process that took a lot of time and money with little value for the classroom teacher. Many times within their district, results of studies were interpreted by administrators, passed on to principals, and then reinterpreted for the teachers. The teachers became skeptical of the value of such data, and they rarely saw or made any changes because of the findings.

Now that these same teachers have seen the IR&DT process work, their attitudes toward research have become more positive. With the innovation of teacher participation in research, the team has seen a way in which the validity of research can be increased. Because teachers selected the question to be studied, assisted in developing the research design so that the data would be collected in a realistic manner, and analyzed their own data, they became active participants in research instead of passive bystanders. Aside from what the teachers learned about distractions and coping techniques, they also experienced a valuable process. They were able to make changes in their classrooms on the basis of immediate feedback of results which aided in solving a problem they considered critical. Even though the IR&DT Team, per se, may not continue as a formally functioning unit, the teachers feel that the process is invaluable to use whenever a problem arises that they wish to study, knowing that the results will be practical and useable. In the future, they will utilize the researcher and trainer/developer from the team both formally and informally to help them set up small scale problem-solving investigations. In the instance of the teachers who are located at the same site, they will use one another to check insights, conduct observations, and interpret findings. Thus, in their opinion, IR&DT has served a long-term professional development purpose.

The trainer/developer reports similar influences upon his approach to staff development. Using teachers' (rather than Central Office) concerns as the basis for inservice training, building training around classroom observations by teachers, and looking at the data collection aspects of a research effort as an important element for inservice training (in addition to research findings) comprise some of the insights he lists.

The researcher has indicated that he has become sensitized and committed to a team approach to research and development and to the importance of trying to anticipate all important research and development issues from the beginning of the process. According to the IR&DT teachers, the researcher has gained a credibility that makes him an invaluable resource both to teachers and the administration. He is perceived as respecting the views of teachers and knowing how to use research findings to help them.

Propositions for Establishing an Agenda for Teacher Education Research

Our collective experiences in developing, implementing, and studying the IR&DT strategy provide us with a unique perspective for approaching both how an agenda for teacher education research might be generated and what that agenda might include. We address these as separate issues within the frame of our assigned topic for this conference, collaboration, for, if there is one powerful notion which has emerged from implementing IR&DT, it is the importance of viewing collaboration as teachers, researchers, and trainer/developers working with parity and assuming equal responsibility to identify, inquire into, and resolve problems/concerns of classroom teachers. Such collaboration recognizes and utilizes the unique insights and skills provided by each participant while, at the same time, demands that no particular set of capabilities be assigned superior status. It assumes a work with rather than a work on mode --the latter being, in our opinion, more frequently the result when teachers are asked to join with researchers and trainer/developers in such a research and development endeavor. Thus, the how of establishing an agenda for teacher education research is as important to us as the what.

The "how" issue. Obviously, for us, collaboration is a "must." Full collaboration of the constituencies represented by teachers, researchers, and trainer/developers is essential if a teacher education research and development agenda is to have meaning beyond the walls of this conference room. As we have suggested, this collaboration must include both parity and equal sharing of responsibility in decision-making, but given these dimensions, a challenge is presented to those of us involved in establishing and carrying out whatever agenda is proposed here. Parity is granted when members of a group agree to its terms, but equal sharing of responsibility is achieved only when each participant assumes his or her share based on the unique ability of each to contribute. The import of this distinction becomes apparent when one examines recent uses of the term collaboration.

The rhetoric of current endeavors in the public education enterprise suggests that collaboration is not a new concept. Beginning with the early 1960's, political pressures brought by various constituencies for participation in decision-making prompted legislators to insert guidelines which mandated collaboration into legislation. As a result, educational programs funded with public monies have developed means to accommodate these guidelines, running the gamut from organizing advisory boards comprised of clients and other interested constituents, to the development of procedures involving full participation of all involved persons.

From this perspective, as well as our own, a constituent group important to deliberations regarding teacher education research and development is the organized teaching profession. As teachers have gained power, they also have begun to be aware of the meaning for them of varying interpretations of collaboration. In more than one instance, teachers have expressed their wariness of being "collaborated on." This reaction suggests that some dissonance may exist between the rhetoric and the manner in which it is operationalized. Such dissonance is reflected in the powerlessness reported by teachers when they seemingly are asked only to "rubber stamp" research and development decisions which appear to have been made a priori.

We are not necessarily suggesting that a "work-on" form of collaboration is intentional, but that it might appear to be so by virtue of what exists in the operationalization of a linear approach to research and development. The separation of r&d functions as practiced communicates a potentially negative message about which we all must be aware. A linear approach infers that knowledge flows from the researcher to the trainer/developer to the disseminator to the implementor, and whether intentional or not, an information and status hierarchy is established. At the "top" is the researcher, who is deemed to be the most "scientific" and, therefore, the most highly qualified; at the "bottom" is the teacher, who knows best how to "implement" but needs not be concerned with "conducting research." It is our observation that collaboration is least attainable when one or more participants of a decision-making group perceives other participants to be more or less knowledgeable or qualified. Especially for this conference, this cautionary caveat should be heeded by those who would choose to collaborate.

The IR&DT strategy examplifies an approach that mitigates this problem. As noted above, each of the constituent participants--teachers, researchers, trainer/developers--is included because each contributes unique skills and insights to the task at hand (i.e., identifying, inquiring into, and solving concerns/problems of classroom teachers). The San Diego IR&DT Team experience clearly illustrates that such a partnership can be built over a 15½ month period. Final reporting will reveal the extent to which participants on the two teams collaborated successfully. Based on preliminary data analysis, it is evident that the highest degree of interactiveness is achieved when participants recognize, accept, and learn to trust and use each others' talents and insights. This is necessary particularly because some division of labor is needed to perform the various tasks undertaken by the team. Short of this, we doubt whether true collaboration is possible.

Having suggested that an interactive approach to research and development is the critical how factor to be considered here, we feel compelled to add that, in our opinion, the organization and conceptualization of this conference are inconsistent with this requirement. For the most part, this meeting is built around a linear perspective. Collaboration is separated from research methodology, process and dissemination. Content stresses the researcher's view. The superordinate power of research is subtly expressed in the phrasing of questions and concerns. An IR&DT approach to the issues being considered here would place different persons in the question-generator role and would attend to the designated research and development elements as they relate to those questions considered most critical rather than as separate issues. We researchers more frequently would be facilitators and clarifiers, not tellers.

The "what" issue. Obviously, the implications for a teacher education research agenda based on our preceding discussion of the IR&DT strategy are many. We have argued that the traditional, linear r&d model has tended to exclude teachers from participation in educational research and development activities except in a minimal, after-the-fact way. In addition, we have suggested that this very exclusion might account for why many educational innovations have failed, and that much research and development might have been made more relevant and useful for teachers if teachers had been involved in its production. To ameliorate these conditions, we generated one collaborative approach to educational problem-solving, Interactive R&D on Teaching, the central feature of which is a partnership comprised of teachers, researchers, and trainer/developers. Having piloted and studied the IR&DT approach, we propose that it is a viable strategy to serve as the basis for a teacher education program, as well.

The experiences of the San Diego teachers, researcher, and trainer/developer that we described earlier illustrate the power of the IR&DT strategy relative to their respective professional growth. IR&DT's focus on problem-solving both advocates and makes use of each participant's unique skills and insights while presenting a forum in which new skills and insights can be developed.

For instance, at the outset, teachers--as they noted--knew little about the process of conducting research or about applying research findings to their own teaching or to training of other teachers. By the conclusion of their experience, they had been involved in all types of research decision-making--from identification of the problem, through selection of a research paradigm and data collection strategies, selection of analysis procedures, participation in data analysis, and writing of their own case studies. As a result, they have acquired a new mind set, one geared toward inquiry into their own teaching/learning concerns, and have had practical experience with research and development tools for their solution.

The researcher and trainer/developer developed new skills and insights, as well. As the team commented, for the researcher, involvement of teachers in the inquiry process revealed a powerful research strategy he had not considered previously. In addition, his membership on the IR&DT team garnered a credibility that renders him invalu-

368

able as a resource for both teachers and district administrators. The trainer/developer learned a strategy for involving teachers in setting staff development agendas (rather than district-set agendas). He also developed skill in training teachers to build observation and data analysis strategies to utilize in their own classrooms. Evidence such as this lends credence to the proposition that IR&DT is not only an alternative research and development strategy, but also is a viable and promising professional development vehicle.

Note that the above statement uses the term "professional development." Although this topic is not the focus of this conference (or this paper), one wonders why "inservice education" is a notion freely assigned to teachers but scarcely recognized as important for other professionals in the education enterprise. IR&DT demands a broader view of professional development. Thus, although we will refer to teacher education throughout the remainder of this paper, we also will refer to the educational needs of other members of the profession.

At the same time, we recognize--and caution those who would venture to join us in our proposition--that instituting the IR&DT strategy for teacher education infers considerable restructuring of (1) the premises and resultant practices upon which teacher education is based, (2) the personal and institutional roles attendant to utilizing such a strategy, and (3) the resultant retraining necessary to develop new skills in those persons who would participate. In turn, each area suggests a plethora of areas of inquiry for teacher education research. Some of these are proposed below.

Restructuring teacher education: Premises and practices. Just as linear thinking has no doubt contributed to operationalizing a linear r&d model, this same phenomenon probably accounts for the artificial separation that exists between research and development activities and teaching, between preservice and inservice education for teachers, and between the process of teaching itself and inquiring into and understanding teaching. Considerable rethinking of the structure of current preservice and inservice teacher education programs would seem to be in order if the IR&DT strategy were to be used. For example:

- Problem-solving and educational inquiry would be a central focus of teacher education. Systematic observation, data analysis, formulation of teaching and learning activities, evaluation of instructional outcomes, etc., would build from the premise that the teacher has (or will acquire) research and development skills. Application of research findings would be individualized (tailored to each teacher's situation) and would be an ongoing aspect of teaching. Diagnosis of students' learning strengths and weaknesses, prescription of teaching and learning "treatments," evaluation of instructional outcomes, etc., would be approached from the assumption that teachers have and use data collection and data analysis skills. Prescriptive lists of content to be mastered by teachers would be "studied" in relation to the problems under investigation. Variations in preservice and inservice training would be designed around a continuum of research and development skills, (e.g., moving from observation through interpreting and modifying teaching and learning based on observed findings).

- Teacher education would require both inter-institutional linkages and inter-departmental linkages within the collaborating institutions. Research and training would not function as isolated departments in a school district or a school of education.

- Inservice teachers, teacher trainees, and university and school district trainers and researchers would function as a team.

- Preservice and inservice education would be conceptualized as a single thrust focused around the problems to be investigated and, hopefully, resolved. Variations would be in terms of the roles and responsibilities assumed by team members rather than in separation of "course work."

Restructuring teacher education: Roles. Utilizing the IR&DT strategy for teacher education demands that traditional roles--both personal and institutional--be judiciously but purposefully examined in relation to the requirements of IR&DT. The partnership of teachers, researchers, trainer/developers on an IR&DT team, the skills and insights each brings to their effort to complement those of others, the collaboration--including parity and assumption of responsibility, the problem-solving focus--suggests that restructuring personal and institutional roles might be necessary to utilize fully the IR&DT strategy. For instance:

- Traditionally, the responsibility for teacher education has rested primarily with those who most resemble the trainer/developer on an IR&DT team. Because the IR&DT strategy calls for considerable collaboration among people with unique skills and insights, utilizing the strategy for teacher education requires a new partnership of teachers, researchers, trainer/developers. For each role, this assumed some possible need for retraining. For example:

  --All team members need to be able to collaborate. Although this at first may seem easy to accomplish, as we have established herein, collaboration requires that team participants possess the attendant attitudes. Specifically, each must respect the others for their skills and insights in order to utilize them and must demonstrate this respect in decision-making.

--Teachers need to consider how to restructure their time since participation on an IR&DT team may require time away from the classroom. In addition, they need to develop observation skills, learn something about data collection so they can participate in decisions about which strategies are appropriate for the problem being investigated, and feel comfortable with analyzing data and writing sections of research and training reports. Preliminary examination of our data indicates that those teachers who contribute most to an IR&DT team have had previous experience with educational innovations, since such experience apparently generates deeper understanding of the underlying principles of instruction and a security about engaging in discourse about these.

--Researchers need to be skilled in both quantitative and qualitative research methodologies. Our experience indicates that this is necessary in order to accommodate teachers' questions with research paradigms and data collection strategies that are considered valid and appropriate by teachers. Generally, this requires design of strategies that are least intrusive on the regular instructional process and provide the capability to "go back" for "after the fact" interpretation. Our preliminary data further illustrate that, as the chief advisor where research strategies are concerned, the broader the skills repertoire and information base, the more alternatives he or she is able to provide. Such capability is as, or more, necessary for an IR&DT team as for any other research and development effort.

--Trainer/developers need to be familiar with developing training strategies that grow from research findings. They need to understand procedures, particularly various data collection methods, so that those utilized by the IR&DT team can be adapted for training other teachers. Preliminary data analysis indicates that these skills are critical to successful application of an IR&DT team's research. It is important to note that, based on our experiences, we suspect that these skills are not usual among trainer/developers. Further, the trainer/developer must be familiar with and tolerant of teaching styles and instructional paradigms which might not align themselves with his or her own. Such knowledge and flexibility maximizes the possibility that a trainer/developer will adopt an attitude of "working with" teachers rather than "working on" them. We strongly suspect our data analysis will reveal this attitude to be more characteristic of the school district-based staff development person than of the university-based teacher educator.

- Just as collaboration on an IR&DT team is necessary, so must collaboration exist among the various institutions interested in and participating in IR&DT. As mentioned above, a partnership between institutions of higher education (responsible for preservice training) and local education agencies (employing teachers and accommodating their inservice needs) is crucial if there is to exist a natural and comfortable "flow" between preservice and inservice teacher education activities. In this partnership, we also would include the appropriate representative of the organized teaching profession. At this point, it is apparent that each of these institutions has a vested interest in teacher education and brings a unique political pressure to bear upon teacher training, certification, and licensing procedures. We maintain that it is to the interest of all parties that true collaboration as we have described it exist among them in utilizing the IR&DT strategy for teacher education.

- Obviously, based upon the above, it may be necessary to restructure facets of both institutions of higher education (in this instance, those involved in teacher education) and local education agencies in order to maximize conditions under which IR&DT can be used.

Restructuring teacher education: Training needs. Based upon the previous discussion, it is apparent that training will be required for persons who participate in and administer an IR&DT-based teacher education effort. Training of IR&DT participants grows naturally from their above mentioned role functions.

For persons who administer the strategy, however, training requirements are not as clear and must await further data analysis. At present, we can point to two needs. First, an understanding of the IR&DT strategy is necessary, particularly how it contrasts with traditional research and development approaches. A persistent problem in administering IR&DT has been to explain adequately to others (e.g., funding agencies) that, in IR&DT, one does not know the question(s) to be inquired into until the IR&DT team determines what it is. Knowledge of the strategy would help alleviate this problem. Second, flexibility in administrative style and ability to creatively solve problems are definite assets. The potential incompatibility of the accounting and budgeting systems of the participating institutions and the team's efforts may require creative adaptations. For example, the fiscal year and attendant accounting procedures of the school district, university, and other agencies may not align with the team's natural research and development cycle. In addition, since personnel allocation in schools and universities usually is on the basis of full-time, full-semester assignments, allocation of a portion of a person's time throughout a semester, or all of a person's time for a portion of a semester, may meet the team's needs but disrupt the institution's operations.

As a final comment, we would like to reaffirm our earlier position that training (i.e., staff or professional development, or teacher education) is a viable activity for all educational personnel. Certainly, in relation to the IR&DT strategy, every person engaged in this activity will need training. In addition, it is possible that a sensitive recruitment and selection process of IR&DT personnel (teacher trainees, teachers, researchers, developer/trainers) will be necessary. Just as IR&DT is not the only collaborative research and development strategy, not all teacher trainees, teachers, researchers, trainer/developers may possess those skills and attitudes necessary for approaching the improvement of teaching and learning from an IR&DT perspective.

References

Berman, P., Greenwood, P., McLaughlin, M., & Pincus, J. Federal programs supporting educational change, Vol. V: Executive summary. R-159/5-HEW. Santa Monica, Calif.: The Rand Corp., 1975.

Clark, D. L., & Guba, E. G. An examination of potential change roles in education. In N. O. Sand (Ed.), Rational planning in curriculum and instruction. Washington, D.C.: NEA-CSI, 1967.

Guba, E. G., & Clark, D. L. The configuration perspective: A new view of educational knowledge, production, and utilization. Paper presented at the CEDaR annual meeting, Nov. 1974.

House, E. R. Transferability and equity in innovation policy. Paper presented at the National Conference on Innovation and Change, Detroit, Mich., September 1975.

Howey, K. R., & Feistritzer, C. E. Compilation of recent studies in teacher education. Paper submitted to National Teacher Development Initiative, USOE, September 1978 (draft).

Lortie, D. C. School-teacher: A sociological study. Chicago: The University of Chicago Press, 1975.

Musemeche, R., & Adams, S. The coming teacher shortage. Phi Delta Kappan, 1978, 59(10), 691-693.

Ward, B. A., & Tikunoff, W. J. An interactive model of research and development in teaching. San Francisco: Far West Laboratory for Educational Research and Development, 1976.

A NEW SOURCE OF ENERGY FOR TEACHFR EDUCATION: COLLABORATION

Robert N. Bush
Stanford University

Since the situation in teacher education reflects what is happening in schools, and since conditions in schools mirror what is taking place in society, it would seem to follow that teacher education must have energy problems. I believe that we do, but that they are of a somewhat different character from those now confronting society and being discussed in the Congress. The energy problems in society seem to be those of using too much, a matter of wastage, resulting partly from having had an abundance that now threatens to dry up and/or become prohibitively costly. In teacher education it is quite otherwise. We have never had enough energy to serve our needs. Teacher education is an energy impoverished enterprise. We need far more if we are to solve the problems now confronting us.

Before becoming hopelessly entangled in this analogy, let me state my thesis concerning the central problems in teacher education upon which we should concentrate our attention. Let me begin with the proposition, which I think needs little defending, that teacher education is grossly under-energized. (I doubt that there is such a word, but there should be.) As a result of understandable demographic forces, the pendulum is now swinging from an earlier preoccupation with preservice to one of engrossment with inservice education. But of what good is it "to rob Peter and pay Paul?" Surely, inservice teacher education needs all possible attention. But should less effort go into preservice teacher education, already long underfunded? We need much more energy that is better targeted in both fields. My argument is that it may be possible to do both, if we collaborate and jointly concentrate our energies at critical points and, thus, multiply our power.

The central proposition to which I invite your attention for discussion at this meeting is for all of us to collaborate and focus our attention. We should not focus on preservice or inservice teacher education, but on the transition period between the two, in the first few years (3-5) when new teachers begin their practice--a highly teachable moment. The strategy that I propose for consideration is that we would substantially increase the effectiveness of our efforts in teacher education by a decade of focus on the beginning years in the profession. By we I mean all of the different interested parties: those in the institutions of higher education, the experienced teachers and administrators in the schools, the licensing and accreditation officials, the research and development agencies, the professional organizations and associations, teacher trainees, students in the schools, and members of the community. If these groups (The Big 8) could enter into active collaboration, we could significantly increase the efficiency with which the teacher education dollar is spent, which is essential, given the forces of inflation and an increasing competition for a share of the tax dollar. One of the reasons that I propose collaboration and am optimistic about its possibilities grows out of my experience during the past six years with the National Urban/Rural School Development Program. In our final report (Joyce, 1978), we documented the fact that school community councils (comprised of one-half community members and one-half educators and which had read power to make decisions on programs, personnel and budget) can work effectively. The greater the degree of parity between the two groups, the better the program of inservice education; sharing power increases power. "This is not a new idea," you say. I know that increased attention to the beginning teacher has been advised for years, and some minor attention has been devoted to it, but not really very much has been done. It has been mostly talk, pious platitudes. I believe that the time is now ripe to do something substantial and far reaching.

I know enough about the real world to understand that major changes in education and in teacher education occur slowly, over time, never quickly and easily. However, new forces are at work today. Funds for preservice education are dwindling and large sums are beginning to be directed toward inservice teacher education. In California, even in the face of Proposition 13, AB 65, the new comprehensive school finance law, contains a major school improvement provision. This enactment will pump almost 150 million dollars per year for the next several years into the schools for their improvement, a substantial component of which will be staff development. This is over ten times the amount appropriated this year for the new federal teacher centers.

What are the chief arguments that I advance in support of this thesis? I organize the argument around three questions: (1) What current problems in teacher education would such an approach address and be likely to overcome? (2) What are some of the difficulties and problems that might be encountered and how realistic is it to think that they could be overcome? (3) What conditions are requisite for effectively mounting such an effort?

Before tackling these questions, let me be specific; let me describe in some detail what this strategy would look like in practice so that you can understand what I am advocating. I do this because it seems to me that if we are to engage in research on collaboration, the first order of business is to get some meaningful collaboration underway. For that reason, I offer a specific proposal that gives shape and substance to the idea of collaboration.

Description of the Strategy

There would be three phases:

Phase I. The Pre-Professional Period

We begin with a strong liberal arts background culminating in a B.A. degree, with little or no pedagogical theory or practice (much as I outlined in an article several years ago--see Bush, 1977). This would occur when a person typically is ending a full time engagement in a higher educational institution. That time period could be less or more than four years, depending upon the individual, but four years is selected as a norm.

Phase II. The Training Period

To enter the second phase, those who wished to undertake training would take the initiative and be responsible for applying and being accepted for an "internship"* position, that would last about five years, perhaps in two different locations--two to three years in one place and two to three years in another. These internships would be located in training complexes and in individual schools within them, located in communities as integral parts of the school system. These complexes--some of the features which have been described previously (Bush, 1975)--would be consortia of teacher trainers from the institutions of higher education, personnel of the local education agencies, and community representatives. This is our first collaborative step. Upon acceptance into a training complex, the candidate would be given a limited credential, good only for the duration of the internship. These complexes would be located in neighborhoods of different socioeconomic and ethnic composition in both urban and rural areas. A large attrition between those who completed a B.A. degree in pre-professional education and those who successfully were admitted to internship training would be anticipated. This is a strong feature of the plan. It would not be a loss to the system. It would be partly a self-selection process, leaving only those who had more than oridinary motivation to enter teaching. Those who chose to enter other fields would still have a good liberal background, which would serve them well not only as workers in other fields, but also as citizens and parents. The cost would not be high in comparison with professional training. The program in these training complexes may, for purposes of discussion, be divided into two strands--although they should operate so as to be almost indistinguishable: Strand I School Improvement and Strand II Training.

---

*We need to develop our own terminology, perhaps something new, for this period rather than borrowing from other professions.

The dominating and permeating idea is School Improvement. The model of this collaborative venture is a problem solving one, in which the regular teachers and administrators in the school, teacher training representatives from the cooperating institutions of higher education in the region, the beginning teachers, interns, students in the school, and community members would be engaged in a comprehensive effort to improve the school so that a better education would be provided for the students. Accompanying this problem solving effort would be a training effort in Strand II. The heart of this thrust would be extensive practice by the intern over a period of several years: practice at different grade levels, with different kinds of students, in classrooms and in other than formal classroom situations, in learning how to work with students individually and in small groups and with parents and community members. There would be extensive observation of this practice, by different groups--peers, school and higher education personnel. Time would be provided for critical, thoughtful discussion about that practice, and then opportunity to try again and to perfect it. There would be timely feedback, opportunity for discussion, and correction.

Sufficient amount of this kind of practice over an extended period of time would be provided so that attention could be given not only to the perfection of a wide array of technical skills, but also to the professional decision making side of the coin which is so often now neglected and left to chance. Trainees would, thus, be given a chance to develop their own unique styles of teaching and to learn how to make wise professional decisions as to which of the repertoire of skills to draw upon in a given situation.

In a school or group of schools where both of these strands were underway, there would emerge new roles in which both higher education professors and school staff would become colleagues in the role of clinical instructor, both conducting continuing seminars for the interns, sometimes in the school and sometimes at the university. This training would operate on a twelve month basis, with regular time and dollars budgeted for it.

Phase III. Assessment and Licensing

Sometime during the fourth or fifth year--not earlier than the fourth and maybe later than the fifth--the individual would say, "I am ready to take my examination for admission to practice." This could be a joint decision with the advisor or his basic seminar leader. This would not be a hurried affair, but would take place over a period of several months, interspersed with or even an integral part of the trainee's regular work in the school. It would consist of at least these parts, perhaps with new ones to be developed: (1) demonstration of a variety of basic skills in specific situations; (2) observation by experienced clinical instructors from schools and colleges; (3) written examinations on pedagogy and subject matter; (4) possibly an oral examination, and/or (5) a written project which would demonstrate the trainee's problem solving (research) capacity. New parties in the collaboration enter at this point in terms of licensing and accrediting standards. The examination would be jointly set, given, and scored by the state and the profession, and would, when successfully passed, result in the issuance of a basic license to practice. It might be desirable to design into the system a higher, more "specialized" license that would be achieved later. It would be assumed that the state licensing and accreditation system, as well as the colleges, schools, and professional organizations, would set standards and in other ways encourage the development of such a system.

The Problems in Teacher Education That This Scheme Addresses

What important problems of teacher education would be addressed if all groups were to collaborate and concentrate attention for a decade upon the beginning years as we have just sketched? There are at least four, which I shall touch briefly on: (1) time, (2) practice, (3) inter-relationship of the various parts of the system, and (4) inquiry (research and development) about the system.

1. Time. One of the main lessons that we have learned over the past decade or two is that the proper training of a teacher takes time (Bush, 1977). We are forever trying to crowd too much into too short a period. As a consequence, we don't do any training very thoroughly; we skip shoddily over many aspects of it and miss other aspects altogether. Ideas about teaching need time to mature. Skills require much repeated and criticized practice. Time is required for a unique teaching style to emerge in a manner that is suited to individual talents. Under current conditions, the transition from neophyte to socialized professional is forced to take place in such a brief period and under such unfavorable circumstances that this aspect of training constitutes one of the weakest parts of the system. As a consequence, there are extremely high costs in terms of morale and professional self esteem. The provision of a period of several years in which to perfect skills and competence in decision making and to

begin a positive socialization into the profession would be a major improvement in teacher education. This was brought home forcefully to me over the past several years as I watched the difference between our regular trainees at Stanford (who had one year of post-baccalaureate training in the regular Stanford Teacher Education intern program) and the Teacher Corps interns of our tenth cycle project in cooperation with the San Jose City Schools (who had two years to complete their program). The more favorable attitudes about teaching and the marked advantages felt by the two-year trainees as they entered their first regular positions were most noticeable, advantages in amount of confidence, breadth and degree of skill represented, capacity to handle discipline, ability to provide individualized instruction skill in relating to the community, and capacity to maturely plan their own future professional development.

2. Practice. Even though practice has long been considered by many to be the most useful part of the training program, it has been so little and so late that it has not been possible to take full advantage of what we know how to do. The need for and the positive consequences of providing trainees with much more and varied practice, observed and criticized at a variety of grade levels and under different conditions, has proven again and again to be highly beneficial. A most important aspect of this practice is that it needs to take place under relatively "safe" conditions, where mistakes and weaknesses are expected and shared, so that these conditions can become rooted in normal expectations for a lifelong period. Because of the present short period of student teaching practice, there is only one chance to pass or fail. Under the plan outlined, critical summative evaluation would not take place until after several years of practice. There would be no immediate threat of passing or failing "student teaching," or to the potential of achieving tenure. Not only would much of the threat typically surrounding beginning practice be

reduced, but also the deep satisfaction that derives from perfecting practice, of overcoming errors in skill performance, would be enjoyed and shared. The psychological relief at not having to "hide" shortcomings would have a salutory effect upon the mental hygiene of the profession.

3. Inter-relationship of Various Parts of the System. Teacher education has always been rife with dysfunctional dichotomies--theory and practice, beginners and oldtimers, schools and universities, subject matter and method--to mention a few of the most prominent ones. These dichotomies constitute serious obstacles that need attention if the profession is to grow into full maturity. The traditional conflicts, misunderstandings and differences in points of view about teacher education between those in the schools and those in the colleges have many deleterious effects on newcomers to the profession. Just as neophytes begin their careers and are becoming socialized to the profession, they are subjected to this disharmony between those who have just trained them and those who are now their seniors in the schools. What are they to believe about a profession that is so split? The oldtimers tell them, "Now just forget all of that theoretical and impractical stuff that you learned at the university, and we will help you learn to teach here in the real world." The fact that experiences teachers convey this message is disturbing enough to the neophyte, but that help offered is typically never delivered only compounds the mischief. It is probably one of the most debilitating matters that confronts newcomers. It makes them unnecessarily wary and impels them even further than is natural to keep their own counsel. It surely contributes--as do many other factors--to the erection of the classroom castle concept and the high barriers that are built between classrooms. It is our contention and hope that in the scheme proposed, the newcomer's first few years would take place under much more favorable circumstances than those just described. With experienced teachers and university trainers working regularly together in the school site over

a period of several years and with both immersed in working on real school problems, sharing the difficulties, and contributing something to their solution, attitudes toward one another would probably alter. We have some evidence that, under such circumstances, they indeed do. This more favorable attitude would have a positive effect upon the trainees. The manner of working in a school problem solving mode with continuous seminars taught on-site both by the college and the school clinical instructors should make the traditional gap between theory and practice much easier to bridge. The manner of training and the work in which the trainees would be engaged would emphasize a collegial, team approach to tasks much more than now prevails in the schools or in typical student teaching programs. The new model brings teaching much more into the open and begins to overcome the paucity of teacher-teacher dialogue that prevails in schools today. For too long, the teacher has lived mainly within his classroom walls, confining the bulk of his relationships with younger, immature persons. More than in most professions, teachers have suffered from too little interaction with colleagues and mature adults. The more stimulating environment of mature and sustained dialogue with colleagues on important matters of teaching inherent in this model would be salutory.

4. Inquiry, Problem Solving, and Research and Development Orientation. Until fairly recently, the colleges were considered to be the producers of research and the schools its consumers. Teachers claimed little understanding of or interest in research, and researchers were interested mainly in gaining access to classrooms to gather their data as easily and as quickly as possible. No questions asked on either side; there the matter ended, literally. Little wonder that the researcher's findings were seldom consequential and that there was little demand for or interest in them by the practitioners. This model never worked very well for either group. Happily, things are be-

ginning to change. The roles of practitioner, researcher, and policy maker are beginning to merge as the educational research and development process matures. As we approach a problem solving, collegial attitude in the study, improvement, and practice of teaching, many new and interesting things may begin to happen. For example, we know very little about the learning curve in learning to teach, or about how it might be shaped in a more favorable way. This is the main research question on which I would propose that we concentrate, and under the circumstances outlined, it would be possible to tackle this problem. It is our hypothesis that the curve for learning to teach might change significantly under the new situation (see Figure 1). Under current con-

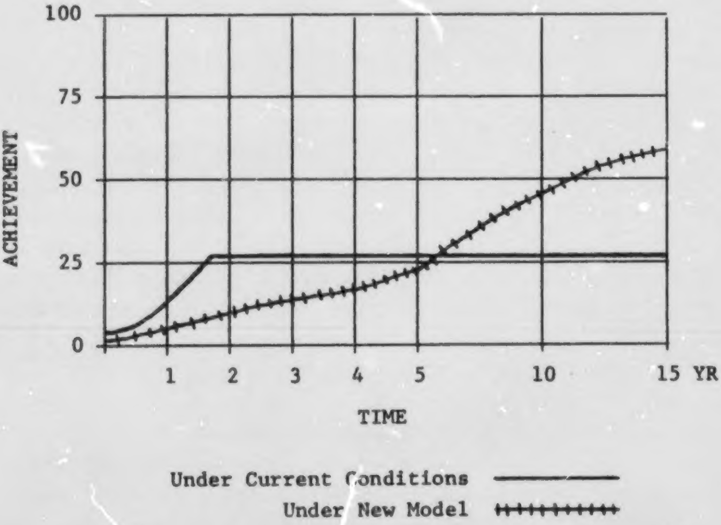


Figure 1

ditions, newcomers had better learn to swim very quickly or they will sink. Consequently, the stress is upon learning how to survive the moment, not necessarily on how to develop a powerful performance that will be sustained and improved over time. This early crisis mentality of quickly learning successful survival techniques often becomes frozen into the teacher's repertoire. This results in performance far below the potential which could be achieved if a more gradual approach were taken wherein there was ample time in a safe atmosphere to practice potentially more powerful strategies that take longer to perfect. Under better designed early years, a long-term, sustained growth in teaching power would be more likely to result. This is an hypothesis, one which would be possible to test under the model proposed. It would be no small achievement if we could, in training, promote the long-term sustained growth of teaching skill and professional competence in decision making, the development of a wide repertoire of skills, and unique teaching styles. Cooperation on team teaching would, under this system, be given a better chance to work than heretofore. This, again, would not be an insignificant outcome.

These four problem areas of time, practice, interrelationships of the parts of the system, and attitudes toward inquiry that the new system would tackle are illustrative, not exhaustive, of some of the more serious problems that have long confronted teacher education.

Why Won't It Work?

By now, you have had sufficient time to begin to think of a number of flaws in the proposed system. These should be thoroughly explored in our discussions. To get this aspect of discussion under way, let me list a few of the problems that occur to me as possibilities and indicate whether or not I believe they are insuperable.

1. It would be too costly. The system would cost more money. The teaching load would have to be lighter. Adjustments would be necessary to make time for clinical instruction. This new training load would not be assumed unless there were added compensation. The answer to these criticisms is, perhaps, "yes" but added dollars might not be necessary, but simply the spending of present dollars and resources differently. If resources were reallocated, what would be cut? A universal answer to that question for all places is difficult, but contemplately alternative answers to it are clearly not impossible.

2. Teachers are entitled to their seniority rights and would not be ready to give them up to newcomers. Although this is true, there would be plenty of routine and lesser tasks that the trainees could properly assume. Also, with more staff available to help, the individual load would be less and the accomplishment more, hence teacher satisfaction might be greater. Then, too, the new system would not require the elimination of all seniority rights of preferred classes and periods of teaching.

3. Applicants desiring to enter teaching would be unwilling to spend this longer time in preparation. This is likely true. Many have always wanted a career that would be easy to enter without extensive preparation. However, this system would weed out those who were not motivated, which would be desirable. In a time of surplus, this selectivity becomes much more possible. Then, too, subsidy through payments to interns would be attractive, as, for example, the Teacher Corps program has proven.

4. The incentives have been low both for the university

teacher to go into the field and for the school teacher to take on the added load of teacher training. This is not a new problem, nor would it be acerbated by the proposed approach. We have been making progress on this front over the past few years in our increased emphasis on field-based teacher education. As decreasing demands are being made on college faculties to conduct preservice education, these professionals are being freed for field assignments. The satisfactions that college faculty derive from a good field assignment are very great indeed.

5. The track record of having colleges and universities collaborate with one another in teacher education projects is not very good; hence, establishing training complexes would not be easy. This criticism is undoubtedly true. However, if there were financial incentives connected with the complexes (as there would need to be), and if the prospect of having graduates from the college or university practice in a good training complex (in whose design it may be presumed that institutions of higher education would have something to say) some important barriers to collaboration would be lowered.

6. The assertation that this proposal represents a complex, comprehensive change and, as such, has little likelihood of being realized, must be considered. As true as this criticism may be, however, we are approaching the end in piecemeal and patchwork attempts to save the system. Further, elements of the new proposal have already been experimented with in different places. It may be the propitious moment to start to bring all of the different pieces together into a new design.

This is not an exhaustive list of problems, of things that might go wrong. It is simply a beginning; discussion should bring out more. Then, we can assess the situation to see if the obstacles outweigh the potential advantages, or whether the potential is worth an effort.

What Would Be Required to Make Such a Proposed System Work?

At least the following four requirements seem essential:

1. Master planning. The different segments of the system and agencies therein would have to work together. Collaboration of the many different parties is essential. No institution of higher education or local school district could accomplish the task alone. A subgeographical region of a state or, preferably, a whole state plan would have to be developed. In California after World War II, we developed a statewide master plan for higher education that has not only had a phenomenal success but also has been a model for other places in this country and abroad. I have been working with the California Commission for Teacher Preparation and Licensing about the possibility of building a master plan for teacher education in California. Perhaps another state or two might join in a collaborative effort. If the idea began to succeed in several places, we might well be on the way toward making a national impact on problems in teacher education. I believe that nothing short of this magnitude of effort would be required to make a fundamental improvement in teacher education at this juncture.

2. A second requirement would be for those of us in the field to change our way of thinking about teacher education. Teacher education should not be something

that we do mainly or solely in the colleges, and which then requires a retread job several years later. It should be a continuous process that begins with a modest effort and gradually assumes greater concentration and attention as the training proceeds in normal school settings. It should be a genuinely joint effort of school, college, trainee, the state and the community. This perspective has not been our traditional way of thinking about the problem. However, this shift in thinking is beginning to take place as many of us face the future realistically.

3. This second condition would have to be accompanied by a third change in the way in which we spend our time in teacher education. For the college personnel, time spent in a series of separate, formally organized, single, teacher-taught classes, with a textbook, assignments and written examinations would probably decrease. The amount of time spend on the university campus in relation to that spent out in the schools would decrease. Lecturing might decrease and the amount of small group discussion and tutorials would increase. Demonstration and modeling, now largely absent, might appear in increasing amounts. Experienced school personnel would spend less time in the classroom with students and more time with their younger neophyte colleagues. They would spend less time teaching, more in observation of teaching and in discussing the results; more time in working in groups with colleagues (peers, trainees, and administrators) in planning and in solving school problems; more time in homes and in working with community members as partners in the life and work of the school; more time in thinking and talking about teaching and of ways to determine how effective it has been.

4. A fourth requirement would be some absolute increase in resources now devoted to teacher education, resources not obtained by taking them from other parts of the system, but new funds. The most likely sources would be the state and the federal governments. This condition is a long overdue necessity, and there is some suggestion that it is not an unrealistic expectation. Both federal and state levels of government are already beginning to realize, as suggested by results from research, that resources put into effective and well-targeted teacher education are among the most useful dollars that can be spent in improving schools.

To sum up, our proposition is that, at this time in the educational history of our country, we need to increase sharply the amount of energy--time, money, and other resources--devoted to teacher education. The new sources of energy that can be tapped for teacher education lie in the community, the schools, the institutions of higher education, in the state and federal governments, and in the redirection of some of our present energies. In directing new energy to teacher education, there ought to be a shift in where and how we use our augmented power. The central idea is that this new force should focus upon the beginning years of teaching. This would call for strong, bold leadership and would not be without risk. However, the result might well be a renaissance in teacher education that would reverberate throughout the educational system to its enduring benefit.

References

Bush, R. N. Teacher education in the future: Focus upon an entire school. Journal of Teacher Education, Summer 1975, 26(2), 148-149.

Bush, R. N. We know how to train teachers: Why not do so! Journal of Teacher Education, Nov. - Dec. 1977, 28(6), 5-9.

Joyce, B. R. Involvement: A study of shared governance in teacher education. Washington, D.C.: ERIC Clearinghouse on Teacher Education, 1978.

COLLABORATION SESSION DISCUSSANT REMARKS

Vaughn Phelps
Westside Community Schools
Omaha, Nebraska

As a superintendent of schools, I really appreciate the opportunity to participate in this conference and want to thank the planners and the National Institute of Education, the supporters of this program. As a practitioner, I feel a little bit like the custodian who was in the bank president's office late one night when the phone rang. He picked up the phone and said, "Hello." The person asked quite a long question, which was then followed by a long pause. Finally, the custodian said, "Well, I want you to know that I told you all I knew about banking when I said, 'Hello.'"

Now, this may be old hat to you if you watched the television news this morning: German beer has been found by researchers in Germany actually to cause cancer. Newsmen went around yesterday and quizzed some of the people concerning their beer drinking, asking, "Are you going to quit drinking beer?" The best remark, that should be remembered in this group, was that of one fellow who said, "Hell no, I'm not going to quit drinking beer. There are a lot more old German people living who drink beer than there are old researchers!"

I also feel a little bit like the English teacher who went to the traditional annual convention. At this convention was a speaker who was addressing the topic of nuclear physics, describing fission and fusion and delving into the various depths of his knowledge and understanding of what needed to be done. The English teacher, when coming out, was asked, "How did you like the meeting?" "Just great," was the reply, "I know something about the topic, but I know so much more than I understand."

I think, at this conference, I have gained that perspective, that I really know now so much more than I understand. I hope maybe I can inculcate that into my own experiences and programs.

Now, we do have a program in our school district where we are working closely with a nearby university in a five-year training program. We begin the inception at the freshman-year level, and we actually pay students and guarantee them a job at the end of their five-year program. I mentioned that at the outset so that you understand that we are interested in this program from the standpoint of an institution which uses teachers whom most of you train.

Each discussant, and I am sure each presenter, wishes to present a stimulating Gettysburg Address to this august body of experts, with the hope that unlike Lincoln's, the brillance of the remarks will be recognized immediately, and if not then, surely after publication, clearly giving a plan that would be acceptable to all of us. After listening the last few days, I've given up on my Gettsyburg Address. Nonetheless, I feel that my charge is to react to the papers and remarks of our presenters rather than bringing my own personal and professional agenda. I shall only partially succeed because of time constraints and my own vanity of ideas.

"Collaboration" has been referred to here as an increasing, expanding effort in teacher education. I think the presentations this morning illustrate that there are many, many positive benefits. There seems to be a general support of this direction, although the mechanisms, the controls, and, indeed, all the enemies who are to collaborate have not been identified, or at least not been agreed upon. I think the eight that Dr. Bush laid out certainly are inclusive and adequate as a beginning. While Webster, as Bob Houston quoted, indicated the definition of "collaboration" as "working with the enemy," I would hope that our operational definition of "collaborative efforts" in teacher education research will agree upon a more accurate description for the collaboration of institutions or organizations with the like educational goal of improving educational practice. Understanding any difference in goals may well be a part of the open or hidden agenda. Both Houston and Bush have experience in collaboration, and certainly the Far West Laboratory trio does also. Houston has given us a perspective description of "collaborative efforts," describing the strengths and weaknesses, as well as the procedural problems of the primary institutions involved in the "collaborative efforts." Collaboration is difficult; it's dirty work, at best. But certainly less clean is the decision-making that we could have. Collaboration lacks in many of the reward systems, as Houston pointed out. And, yet, is there any other way to go if we are going to gain equal success? Bush presented for us an agenda relative to a schematic; Kennedy said to me that teachers will accept pragmatic collaborative designs, the Far West Laboratory trio indicated, at least through one of the speakers, that teachers need to be an integral part of the collaboration process.

Now, deviating from the agenda, I would like to ask this group who makes the decisions for research in teacher education. Individuals? NIE? OE? Private foundations? Universities? NEA? ASA? Legislatures? I think we ought to take a look at something that happened about 25 years or so ago, maybe a little further back, when we designed a 200-inch telescope. This telescope was designed to look farther out in space than we had ever looked before. This telescope could not do that until a 25-inch telescope had also been placed into effect which could find the holes in the sky where the 200-inch telescope could look, beyond the close galaxies. I suggest we need something like an educational policy council on teacher education and research, an outgrowth, probably, of presently-existing organizations, so that we have a 25-inch telescope that can give a perspective of where we ought to look for the greatest payoff. As Bush said, we have limited resources. Let's make the maximum utilization of those: we have to have some mechanism to do so.

COLLABORATION SESSION, DISCUSSANT REMARKS

Judith Lanier
Institute for Research on Teaching

As a reactor, I am fortunate to have had four presentations that provide some very rich ideas about the important aspects of collaboration. I would like to draw from their comments.

Bob Houston talked about the need for working together towards a mutual benefit. This implies two or more parties coming together to work on a common goal. He also included the characteristic of "willingly cooperating with an occupying force." The idea of "occupying forces" and working with "an enemy" are pertinent notions for thinking about the process of "collaboration." When collaboration begins, the various parties involved frequently do see each other as enemies--each trying to be the primary occupying force in control of some territory. They see each other as enemies in the sense that there is fear and trepidation on the part of each towards the other, though the nature of the fear is often not clearly defined. In some instances I think, the fear is of the possible discovery that one does not have all the answers, that one knows only partial truths. At any rate, an occupying force is at least one that cannot be fully trusted. One fears losing something, a piece of the action, or a piece of control. So, willingly cooperating with an occupying force is an important notion to think about as we consider the meaning of the term collaboration. I am glad Bob Houston brought this aspect to our attention.

I am not as eager to accept Dr. Houston's notion that "inter-institutional" efforts are a necessary part of the definition of collaboration. Persons from within a single institution can come to work together for mutual benefit and can see each other as possible competitors--even enemies with whom they must cooperate. I don't want to deny this mutual endeavor as being collaborative, simply because the persons are from one institution. Thus, I would not like to limit our thinking about collaboration to only inter-institutional cooperation.

I enjoyed the addition of Bob Bush's views. The idea of shared problem-solving and a collegial attitude toward study that focuses on the improvement of teaching, whether that be teaching children, teachers, or other adult professionals, is an important one. Dr. Bush helped us focus on the nature of the goal, that is, the reason we might be working together for mutual benefit.

Tikunoff, Ward, and Lazar emphasize parity in decision-making as an important aspect of collaboration. This idea of parity and its relationship to equal sharing of responsibility for decisions is something that we also need to think about, and might give attention to in our small group discussions. Particularly unique and important is another notion that they raised but did not elaborate. This was the notion that each collaborating group has a "unique something" to contribute. This is a very important concept that we should not lose or forget in discussions of collaboration.

Charlette Kennedy emphasizes the important idea of a mutually beneficial division of labor. We have not thought seriously or long enough about division of labor in collaborative efforts and our failure to do so may be part of the reason that persons experience a burden in collaboration, particularly as it relates to time. Some seem to think that collaboration means everyone doing everything together all the time. The mutually beneficial division of labor is critical.

At any rate, in the spirit of collaboration, I would suggest that the diverse views that each of the contributors has brought to us is an illustration of collaboration. In other words, each of them has brought a partial, unique, and different view. But, if we put them together, we will have a richer understanding of the whole. In my remarks, I will not add new definitions, but will selectively draw from their insights and attempt to synthesize the views presented. In turn, I hope I too can help us get a clearer picture and understanding of this important concept--a task that neither I nor they could do alone. We will achieve an outcome that we could not achieve without one another, which serves to emphasize our mutual inter-dependency.

First, I would like to focus on the difference between cooperation and collaboration, particularly as it relates to the nature of the goals and the commonness of the problem to be solved. Let me move away from the field of education to do this. Let us go to family life at home, where there are different folks who must come to work together.

I cooperate with my son at home by allowing his rock-and-roll band to practice at great length. I not only allow it, I encourage it, and, thus, I am being cooperative. Similarly, I feel that my son or daughter cooperates with me when they help prepare hors d'oeuvres for out-of-town guest when I won't be arriving home until late. But, I do not believe that these examples of "cooperation" are examples of "collaboration." The reason these are not examples of collaboration is that in each case we did not do something that was of mutual benefit. Listening to my son's rock-and-roll band is not to my benefit (perhaps at some future point should he become rich and famous, though I have my doubts at this point in time). Similarly, his food or home preparations for my friends is for me. These are cooperative efforts since they are things we do for each other's individual well being. I would say that we collaborate, however, during our family meal preparation. Here we each offer some form of expertise that is rewarding to all of us. It contributes to the well-being of the whole group. Our sixteen-year-old enjoys taking the car and getting the needed ingredients that don't happen to be in the cupboard when they are needed. I make the decisions about what we are going to have, and someone else helps cut them up and put them together. At these times we collaborate, because we are each bringing a different form of expertise to bear on something from which we will all benefit.

Now to this very homey and homely example, let me use some other metaphors that I think might bring a fuller perspective. At the end of movies one sees credits given to all the different people who helped put the film together: the dress designers, the sound specialists, and all the various experts who worked together to produce the final product. These people "collaborated" to achieve a common end--something from which they all benefited and brought diverse perceptions and talent. Everyone did not do the same thing or bring the same expertise to bear on the task. Also, if you recall, at the very end it usually reads "directed by," and "produced by." These are in large bold print and indicate that leadership is also held as an important and necessary element to the collaboration.

In the dictionary where I examined the meaning of collaboration, it referred to the fact that there was collaboration in the production of that particular dictionary. Now, I assume that not everyone got together and worked on every word: in other words, there was a division of labor, leadership, and a shared goal. In sports activities such as football and basketball, we look for differences and we value differences of expertise to make the team function and work together well. Similarly they need a good coach--a good leader; one who also recognizes the need for differences. In the world of music, one can think of the conductor, who is seeing that the horns and the drums enter at appropriate but different points in time, so that not everyone does everything all together at the same time. The orchestration is a critical part of the overall product.

Given these examples, we can see that collaboration can be the highest form of respect for diverse abilities and points of view. It represents a complex interplay of talents and knowledge that come together at appropriate times to produce a commonly valued end result which no single party could ever have produced alone. In a non-constructive sense, collaboration can become a negative set of political power plays that allow various parties to hide from responsibility. I think we need to think seriously about how we can make the best of a collaborative effort in education and profit from the diversity of views represented.

One final point, that I can only mention briefly because of the time constraints, relates to the nature of the groups that seek to come together for collaboration in education. This point refers to the ways in which we tend to stereotype the members of a single group. Here I would like to emphasize the differences within groups, that is, the different values and levels of expertise that exist within a set of educators. That is to say, researchers are not all alike, teachers are not all alike, nor are teacher educators. There are a range of views and talents within each group. Perhaps there are as many differences within each group as there are between them. It is easy to decide that one simply cannot work with a particular group. It is more difficult to search carefully within groups for the particular important qualities that certain individuals are sure to have that can help in a collaborative endeavor. It is important in this search to find members from a group that have the special ability to articulate the particular expertise they bring.

During our organizing days at the Institute for Research on Teaching, we looked for teacher collaborators to work with senior research investigators, and it occurred to us that we needed teachers who could be very articulate about their practice and who would not take a back seat to the researchers. Thus, we did not just randomly select teachers, nor ask someone else to send us "one of them." Rather we looked carefully for those who enjoyed and were capable of thinking about abstract ideas--a necessary attribute since this was going to be an important part of the task. We wanted persons who were articulate and thoughtful about the practice of teaching because research demanded that expertise. Like in all other areas, there are differential abilities within the group called "teachers." My point here is that we must learn to look better at individual differences within groups and to identify the sets of expertise that they need to successfully share in the problem-solving that is so important to collaboration.

My time has run out. I will only say in closing that we are sure to have more qualitative outcomes in educational inquiry if we identify and better utilize the multiple talents and perspectives of diverse professionals. Though teachers and researchers and teacher educators frequently see each other as enemies who seek to occupy each other's territory, I am convinced that these attitudes can be overcome if we have the necessary leadership, respect for diversity, and shared goal for a more knowledgeable and capable profession.

Change/Dissemination

Overviewer

Ann Lieberman

Paper Presenters

John A. Emrick

Maynard C. Reynolds

Discussants

Ruben Olivarez

Richard Brickley

Perhaps the most underrated problem facing teacher education is the one that has the least developed research base. This is the area of dissemination of new knowledge and its implementation for changing existing teacher education practice. The general research base about how to spread new knowledge (dissemination) and how to facilitate use of this knowledge in existing programs (institutional change) is extremely limited. The change knowledge deficit in teacher education is even more extreme. How can recent research findings be incorporated into regular teacher education practice? What can be done in terms of research and development initiatives in teacher education to increase the knowledge base about dissemination and change in teacher education programs?

Few major dissemination efforts are aimed at teacher educators and few research studies focus on change in teacher education practices. What can be learned from previous studies of change and dissemination that might inform efforts to improve teacher education? What research is needed?

The Overview Presenter was Ann Lieberman, Associate Professor of the Department of Curriculum and Teaching at Teachers College, Columbia University. She was asked to provide participants with a broad picture of change research and practice. She has had extensive experience as a change researcher and teacher educator in school and university settings. She was asked to address how results of these inquiries might be applied to dissemination and change in teacher education and what dissemination/change questions and issues might be addressed in future teacher education research.

Specialist Presenter John Emrick of Emrick and Associates, nationally known researcher on the dissemination process in schools, was asked to review recent research on evaluation of change efforts. His presentation was to draw implications for teacher education, both in terms of what teacher educators can learn about dissemination and change and also in terms of how change in teacher education programs might be facilitated and/or studied. He was also asked to raise questions and issues related to this area that could be addressed in future teacher education research.

Maynard Reynolds, Professor in the Department of Psychoeducational Studies and Director of the National Support System Project at the University of Minnesota, was asked to be another Specialist Presenter. His experiences in building special education networks and shepherding the Deans' Grants projects put him in a key position to offer ideas and commentary on dissemination and change in teacher education. He was asked to briefly describe his work and the related studies of others. The bulk of the paper was to focus on dissemination and change issues in higher education that had implications for teacher education research and development and to point out issues across the preservice, induction, inservice continuum. He was asked, "What do you see as needed change/dissemination concepts that should, can or do influence teacher education research and development?"

Ruben Olivarez, Assistant Professor in the Department of Curriculum and Instruction at the University of Texas at Austin, was one of the discussants. He has had an extensive history of involvement in teacher education activities, including work with the University of Texas Teacher Corps Project for which he is Director. The other discussant Richard Brickley, Project Director at RISE in King of Prussia, Pennsylvania, has had extensive experience in working with school practitioners in translating research into practice. He has also worked extensively with regional, state, and national dissemination efforts.

DESCRIBERS AND IMPROVERS*:
PEOPLE, PROCESSES AND PROBLEMS

Ann Lieberman
Teachers College, Columbia University

> Those who are at home in the world of ideas and theory usually have never experienced the creation of a setting. They are interested in what is, has been, and should be but they themselves have rarely, if ever, put themselves in a situation where the center of action has moved to the creation of what should be where they will experience the problems as participants rather than observers, and where theory and practice take on new relationships. The artist and the art critic, the man of action and man of theory, the participant and the observer.
>
> Men of action know that it is a fantastically complicated affair, men of ideas and theory know neither the game nor the score. Men of ideas and theory know that most settings go seriously astray, that men of action are devoid of the "right" ideas, and that the major task is how to wed practice to theory.
>
> There is some truth to both pictures but neither group can understand this, perhaps because the men of action know they will have to think differently and men of theory know they will have to act differently (Sarason, 1972, pp. 183-4).

---

* Describers and improvers is an expression used by Barak Rosenshine. I have taken great liberties with his words.

There exists, in most educational institutions, a wide gulf between describers and improvers, people of theory and those of action. While there are hybrids among us, the extremes dominate and tend to narrow the focus of both our research and practical knowledge.

In this paper, I am going to talk about these people and some of the tensions that exist among them. I will argue that the literature on the processes of school improvement has not been a part of most teacher education programs and that this literature may be the intersect between the describers and the improvers. Finally, I will illustrate some problems of both practical and research significance that may continue to haunt our various institutions or serve as future thrusts for us as teacher educators, whatever our bent.

The People in Teacher Education

What initially binds teacher educators together is the fact that somewhere in our pasts we were all teachers. However, beyond that, the roads we have taken within our profession represent many different strands of concern and interest. Some of us love description, research, theoretical models and complex paradigms that help order the phenomena of schooling, whereas others have a strong sense of missionary zeal and have allied ourselves with improvement projects that span ten or twenty years, from the "whole child," to "curricular reform," to "alternative schools," to "staff development." And, many of us try to straddle both groups by engaging in description and school improvement.

The Describers

Describers have always been an acceptable part of the teacher education establishment. Many of us were taught how to conduct research, raise and answer questions, build on or test theory, and provide "implications for practice." The publication of research results is the reward. Training to be a researcher has rarely, if ever, included also knowing how to apply the findings. Involvement in action programs where client needs are primary has always been considered second class (Guskin & Chesler, 1973).

Many describers are not aware of or do not concern themselves with how their research is used. Sometimes, involvement in their descriptions distances them from a larger social reality. Yet, those descriptions often enter a political and social arena that modifies or distorts their research. Consider the fact that there is research evidence now that the more student time on task, the more learning. The Connecticut State Legislature is seeking to lengthen the school day by two hours as a result of this evidence. The researchers will wince because the nuances of how time was defined and the quality of time spent will _not_ be a part of the policy (Fisher, 1978). At what risk to their research can describers remain distant from applications of their work and unknowledgeable about the arena within which their work will be presented?

The pressure to use research calls for skills and abilities that are not part of the repertoire of most describers, nor is it part of the professional socialization of most teacher educators. Where will these skills be learned?

The Improvers

Over the past twenty years, with the advent of many social programs involved in the educational arena, we have grown a host of refugees from Title I, III, VII, and E.S.E.A., to name a few. Teacher Corps, an institution unto itself, is now over ten years old. The United Federation of Teachers and the National Education Association have helped raise a group of people who have fought for better working conditions for teachers and are now involved in supporting and sometimes participating in "improvement research and development." The Teacher Center movement is providing still another arena for the nurturance of a new set of improvers.

There were and continue to be important findings as a result of many of these projects, but the dailiness and intensity of participation does not often allow for reflection and conceptualization. We all have stories to tell, bur rarely do we use or create theory to explain or generalize from our experience.

Improvers and school people alike often have significant personal knowledge, but it may never reach conceptual form. We have, collectively, a tremendous amount of learning yet to be codified, but there is also a beginning body of literature that can inform both describers and improvers.

Processes of School Improvement

In 1932, Willard Waller wrote what is now considered a classic, called The Sociology of Teaching. In this book, Waller describes the work life of teachers. His insights have been documented by many others and can now be grouped under the following rubric.

The School as a Social System

Descriptions of the social organization within schools is a critical part of our understanding of how schools work. The forces that interact in classrooms and faculty lounges are equally significant. This literature ranges from Jackson's (1961) poignant description of gifted teachers and how they see their work, to Dreeben's (1973) analysis of the normative nature of schools as workplaces. What these descriptions reveal is a set of concepts that could be a part of all of our repertoires.

1) A teacher's style is personalized. That is, much of learning how to be a teacher is formed by trial and error and teachers evolve a way of thinking and acting that works for them.

2) Rewards are primarily from students, not from other adults (Lieberman & Miller, 1978).

3) The entire socialization of teachers is fraught with "endemic uncertainties" (Lortie, 1975) as teachers soon realize that what they do and what students learn are often dimly related. (This includes those of us in higher education, too.) Very high expectations are held for teachers, often unrelated to the difficulties involved in teaching.

4) It has often been said that the knowledge base of teaching is weak. This makes the gap larger between those in teacher education and those teaching in schools.

5) With all the talk about competency and accountability, many of the goal statements in schools are vague and leave the teacher to deal on his or her own with the translation of theory into practice.

Ethnographic studies illustrate dramatically the teacher's day-to-day assault on gaining a sense of direction, control and movement in the class (Smith & Geoffrey, 1968; McPherson, 1972). Are these insights a part of our descriptions and teacher training programs? When teachers use control norms to satisfy a need for certainty in an otherwise shaky existence, is this a part of our research design on teacher-pupil interaction? I think not.

Several important studies have attempted long and short range descriptions of what happens to a school social system when school people attempt to innovate.

Innovative Settings

The first link between knowledge of the complexity of the school and problems with introducing new ideas came with Sarason's (1971) very readable description of what happened to modern math when it was introduced into the schools. His common sense approach to teachers and principals put into words what many people had known intuitively--between a new idea and its actual use in classrooms there is an incredible maze of personal, organizational, and political knowledge and behavior that we are just beginning to investigate.

Shortly after Sarason, several indepth case studies appeared that began to flesh out what actually happens within schools when comprehensive plans are made to change the roles and organizational structure of schools (Gross, Giacquinta, & Berstein, 1971; Smith & Keith, 1971; Sussman, 1977; Wolcott, 1977). What these studies reveal is that both describers and improvers have been without an adequate understanding of practice and a set of conceptual tools to guide such understanding.

Two major studies of school improvement undergird several significant conceptual breakthroughs in the change literature: The I/D/E/A* longterm five-year study (Goodlad, 1974; Bentzen, 1974) and the Rand Change Agent Study (Berman & McLaughlin, 1975). Both have been written about extensively and both give us a blend of practice and conceptual thinking.

I/D/E/A

For five years (1966-71), under the direction of John Goodlad (Dean of U.C.L.A., Graduate School of Education), a group of eighteen elementary and middle schools joined together to struggle with the problems of school improvement. We wanted to know how schools coped with changing social and political conditions.** We also reasoned that, if schools joined together, there were probably some generic findings that could be shared. We tried to both intervene in the lives of these schools (meetings, site visits, publications, speakers, linkage, etc.) and also keep track of what was happening (field notes, questionnaires, participant observation, newsletters, etc.). All of these activities provided the basis for several major generalizations.

---

* Institute for the Development of Educational Activity

** I was a staff associate for three years and a fulltime staff member for an additional two years.

1) The individual school is the unit of change.
2) The principal is crucially important in the change process.
3) There appears to be a process within a school staff that can be described as dialogue, decision making, and action. Schools differ markedly in the way this process is carried out.
4) The dynamics of the process appear to be a complicated set of exchanges between teachers, principals and district personnel. (See Goodlad (1975) and Bentzen (1974) for extended discussion of the above.)
5) A supportive network of schools can create new norms for its members.

Rand Change Agent Study

The Rand Corporation began an investigation of four federal change agent programs in 1973 (Title III, Title VII, Bilingual and Vocational Education Act). Eight volumes have been written about the findings. Again, an effort was made to go from practice to conceptualization. Their focus was on the implementation process which involved the researchers in looking at "internal processes of the school." A major contribution of this study is a more refined understanding of the process of adaptation between the innovation and the school organization. The researchers call such a process mutual adaptation--the means by which ideas get reshaped and school organization (users) actually changes. Further, insights into the critical importance of institutional leadership, schools and teacher characteristics and the district's capacity for support of innovative projects was also revealed.

Curriculum Implementation

Another group of researchers who attempt to understand both social system properties of the school and innovative activity has focused specifically on the problem of curricular implementation.

Fullan and Pomfret's (1977) comprehensive review of curriculum projects describes a framework for looking at the implementation process.

	Organizational Necessities	E N V I R O N M E N T	1. Innovation Characteristics 2. Planning Process 3. Status and Power Networks 4. Characteristics of Group 5. Strategies Used for Adoption
Development/User	Norms		
	New Behaviors		

Hall, Wallace and Dossett (1973), after six years of empirical investigation, have created a developmental scheme for understanding both teacher concerns about an innovation and their actual use of an innovation. This work unlocks some of the complexity of the classroom social system as we begin to understand the growth and development of the adults (teachers) in the school. Major contributions in this research are not only the separation of attitude and process (concerns) from actual behavior (use), but also the utilization of a research team of hybrid nature. Further, their tools lead to some significant research questions on the change process and also provide material for developers, linkers, and school personnel.

Linkage and Dissemination

Still another piece of the school improvement literature is that dealing with linkage and dissemination. Since the large federal programs of the 60's, large amounts of money have poured into school systems presumably to aid in the spread and use of innovative ideas. The whole notion of dissemination is undergoing change as studies reveal that the knowledge (of innovations), the process (how the ideas are moved into the system), and the people responsible for these processes represent other complex issues not readily understood (Emrick & Peterson, 1978). Recognizing that the literature on teaching reveals that teaching styles are pragmatically learned on the job, bringing in new ideas often confronts personal style head on. Therefore, the linker (or whatever s/he be called, using any of your favorite euphemisms) finds him/herself engaged in a complicated series of interactions that involve sensitivity to the school culture, knowledge of formal and informal systems, leadership problems, support systems and modeling personalized behavior--in short, engagement much like the complexities of teaching (Nash & Culbertson, 1977).

Most recent studies of school improvement involve looking at both the school structure (the way the school is organized) as well as the school culture (the way teachers/principal/parents relate to each other) (Rosenblum & Louis, 1978). However, both description and improvement of these processes still has a long way to go.

These selected studies are an excellent beginning. They allow us, whether we are describers, improvers or various combinations thereof to have a common set of knowledge upon which to build.

There are some fascinating questions to be asked and some nagging clouds hovering over us. Let me list some of the problems in both research and practice as they relate to the change/dissemination field.

Problems of Research and Practice

1) The bias of the literature we teach in teacher education institutions is still psychologically oriented and heavily weighted on the individual. This has not been helpful to our understanding of schools. Our students must confront themselves, but in relation to a much larger world that is political, organizational and social.

2) Research in teacher education, like most research efforts, has been mostly quantitative. It seems clear, from the previous selected review, that we must invent new methodologies for capturing the dynamics of the improvement process. However, let us guard against using field methodologies as an innovation. They have a healthy tradition that has always been a part of the research community. Can we learn from each other, or must we spend our time protecting our favorite methods?

3) Working in the field is still held in low esteem. And there is an inadequate understanding of how much time fieldwork takes. (A friend of mine recently asked her Department Chairman if she should spend the next five years directing a Teacher Corps project. His answer was "no.") Such functions are clearly legitimate, but can teacher education institutions change their reward structure to allow such involvement?

4) With aging faculties and stable staffs, the whole area of staff development becomes an increasingly important set of activities. Questions to be asked come rapidly to mind:
   a) Who initiates improvement programs?
   b) How are they sustained? Organized? Led?

c) How are teacher, district, community commitment maintained?

d) What role do teacher associations play in staff development projects?

e) What barriers stand in the way of staff development?

f) What kind of leadership sustains or blocks program improvements, etc?

g) What are the effects of Teacher Centers on staff morale, commitment and effectiveness?

5) Will teacher education institutions be flexible enough to engage in field research or will they too fall prey to a narrow view of "back to basics," where only "tradition" will be honored and rewarded? Field connections are definitely not cost effective. Our hope lies in the ambivalence and pressures being brought to bear on teacher education institutions.

6) School people want to exchange with colleges and educational institutions. They don't mind research if there is something in it for them. This means that research must be designed so that it can be fed back and, wherever possible, used. This calls for different skills and abilities. It also calls for a valuing of a translator role. Teacher Centers and Research and Development Centers may be more appropriate for these roles, but can't the teacher education institutions be connected in a collaborative effort?

7) Colleges and universities have been derelict in recognizing teacher associations and their place in American schools today. They have been ahistorical in their understanding of the growth of unionism and stand-offish in efforts at collaboration. This attitude has distanced the research community from organized teacher associations who are asking for such a collaboration (Cooper & Leiter, 1978). How can this be ameliorated?

8) The teacher education continuum remains a

theoretical construct. Perhaps, with fewer students, we can study and learn more about the possibilities of the connections along the continuum, if there are any. Longitudinal studies have rarely been done on a set of teachers.

9) In the past four months, I have been conferring with the State of California, while "disseminating" the major issues of the Beginning Teacher Evaluation Study. I have been struck by the tremendous isolation of all the constituent groups and how needy they are in wanting to know about research. Who should meet this need? Is our responsibility to just report research findings? How do we get information flowing from schools to research establishments and back to schools?

Is it possible for people of theory to act differently and people of action to think differently?

References

Bentzen, M. Changing schools: The magic feather principle. New York: McGraw Hill, 1974.

Berman, P., & McLaughlin, M.W. Federal programs supporting educational change (Vol. IV: The findings in review). Santa Monica, California. Rand Corporation, April 1975. (Eight volumes are available to date.)

Cooper, M., & Leiter, M. How teacher unionists view inservice education. Teachers College Record, September 1978, 80(1).

Dreeben, R. The school as a workplace. In Second handbook of research on teaching. Chicago: Rand McNally, 1973.

Emrick, J.A., & Peterson, S.M. Synthesis of five recent studies. San Francisco: Far West Laboratory, 1978.

Fisher, C. *Beginning Teacher Evaluation Study, Phase IIIB final report*. California Commission for Teacher Preparation and Licensing in collaboration with National Institute of Education, June 1978.

Fullan, M., & Pomfret, A. Research on curriculum and instruction implementation. *Review of Educational Research*, Spring, 1977, *47*(2), 335-397.

Goodlad, J. *Dynamics of educational change*. New York: McGraw Hill, 1975.

Gross, N., Giacquinta, J., & Berstein, M. *Implementing organizational innovations*. New York: Basic Books, 1971.

Guskin, E., & Chesler, A. Partisan diagnosis of social proglems. In *Processes and phenomena of social change*. New York: John Wiley & Sons, 1973.

Hall, G., Wallace, R.C., & Dossett, B.A. *A developmental conceptualization of the adoption process within educational institutions*. Austin, Texas: Research and Development Center for Teacher Education, University of Texas, 1973.

Jackson, P. *Life in classrooms*. New York: Holt, Rhinehart & Winston, 1968.

Lieberman, A., & Miller, L. The social realities of teaching. *Teachers College Record*, *80*(1), September, 1978.

Lortie, D. *School teacher*. Chicago: University of Chicago Press, 1975.

McPherson, G. *Small town teacher*. Cambridge: Howard University Press, 1972.

Nash, N., & Culbertson, J. (Eds.). *Linking processes in educational improvement*. Columbus, Ohio: University Council for Educational Administration, 1977.

Rosenblum, S., & Louis, K.S. *A measure of change: The process and outcomes of planned change in ten rural school districts*. Final Research Report, NIE School Finance and Organization A.B.T. Product, October 23, 1978.

Sarason, S. *The culture of the school and the problem of change*. Allyn and Bacon, 1971.

Smith, L., & Geoffrey, W. Complexities of an urban classroom. New York: Holt, Rhinehart & Winston, 1968.

Smith, L., & Keith, P. Anatomy of educational innovation. New York: John Wiley and Sons, 1971.

Sussman, L. Tales out of school: Implementing organizational change in the elementary grades. Philadelphia, Pennsylvania: Temple University Press, 1977.

Waller, W. The sociology of teaching. New York: John Wiley, 1952.

Wolcott, H. Teachers vs. technocrats: An educational innovation in anthropological perspective. Eugene, Oregon: Center for the Study of Educational Policy and Management, 1977.

SOME IMPLICATIONS OF RECENT RESEARCH ON EDUCATIONAL DISSEMINATION AND CHANGE FOR TEACHER EDUCATION (INSERVICE) PROGRAMS*

John A. Emrick
John A. Emrick & Associates
Los Altos, California

Whereas the 1960's can be characterized as a period of intensive efforts to research and develop ways of improving educational practices and procedures, in the 1970's concern has broadened to include issues of how to improve the flow of knowledge and the transfer of technology to local schools. This paper represents an effort to review, consolidate, and synthesize findings across a sample of significant recent investigations of educational dissemination and change in American schools.

The goal of this synthesis is to review the evidence from a selected group of recent large-scale investigations of educational change and, from these studies, to derive a set of conclusions regarding the current state-of-knowledge and understanding of this phenomenon. We have assumed that our primary audience will be those involved in research on the improvement of education, those involved in designing and carrying out programs to assist in the spread of such knowledge and improvement-oriented change, and those who make policy or allocate resources to facilitate this knowledge production/utilization process.

---

*Much of the material in this paper was excerpted from a recently published report of a synthesis of findings from five important studies of educational dissemination and change. (The complete report, J. A. Emrick and S. M. Peterson, A Synthesis of Findings Across Five Recent Studies in Educational Change, is available from the Far West Laboratory for Educational Research and Development, 1855 Folsom Street, San Francisco, California 94103.) I have chosen this format because I believe these findings have extensive and immediate implications for both preservice and inservice teacher education programs and for development of research agenda. Three such implications involve the need for further clarification of: (a) the realities, contingencies, and constraints which characterize educational settings; (b) the normative nature of educational change; and (c) trait-treatment components (and their interactions) which determine teacher effectiveness.

The five studies included in this synthesis are:

- PSDP: Sieber, S. D., Louis, K. S., & Metzger, L. The use of educational knowledge: Evaluation of the pilot state dissemination program (two volumes). New York: Columbia University, Bureau of Applied Social Research, 1972 (ED 065 739; ED 065 740).
- FPSEC: Berman, P., McLaughlin, M. W., et al. Federal programs supporting educational change (eight volumes). Santa Monica, Calif.: Rand Corporation, 1975 (Vols. 1-5), 1977 (Vols. 6, 7), 1978 (Vol. 8).
- PIP: Stearns, M. S., et al. Evaluation of the field test of project information packages (five volumes). Menlo Park, Calif.: Stanford Research Institute and RMC Research Corp., 1975 and 1977.
- NDN: Emrick, J. A., Peterson, S. M., & Agarwala-Rogers, R. Evaluation of the national diffusion network (two volumes). Menlo Park, Calif.: Stanford Research Institute, 1977 (ED 147 327; ED 147 340).
- TAG: Moore, D. R., et al. Assistance strategies of six groups that facilitate educational change at the school/community level (three volumes). Chicago: Center for New Schools, 1977.

These studies were selected on the basis of scope, relevance, methodology, and availability. Each of the studies was national in scope, each investigated one or more relatively distinct dissemination strategies, each included an in-depth case study component focusing on process-outcome relationships and made use of on-site observation and data gathering procedures, and each had final reports and appendix materials available for review and synthesis.

We have attempted to consolidate findings and implications around a common issue of interest to policymakers, program administrators, and researchers, namely: What can be learned from these studies regarding processes and procedures that facilitate knowledge diffusion and utilization in schools?

Assumptions and Procedures

We have approached utilization and change as the implementation of practices or procedures in response to the dissemination of new knowledge. Thus, we do not consider the mere "spread" or "sharing" of information to constitute knowledge utilization (although they may represent important components in the process). Rather, it is the conditions and transactions which increase the likelihood of improvement-oriented change that constitute the subject of this synthesis.

Since the studies included in this synthesis are large and complex, and published reports have tended to be quite lengthy,* we have assumed that few among our audience would have had the time or the opportunity to read thoroughly the complete reports and their appendices. We found that summaries of the reports (when available) varied considerably both in level of discourse and in issue emphasis. Consequently, we have developed a common format for synopsizing the five studies examined here. The study facts presented in Tables 1-4* describe the essential features of the programs being investigated, the prevailing dissemination and change assumptions underlying the programs, the essential features of the study methodologies used to investigate (or evaluate) the programs, and the primary findings and interpretations developed by the five studies.

---

*The two-volume PSDP report exceeds 1,200 pages; the eight-volume FPSEC report exceeds 1,000 pages; the five-volume PIP final report exceeds 700 pages; the two-volume NDN report is nearly 500 pages; and the three-volume TAG report exceeds 1,000 pages.

Specifically, for each study, available reports and appendix materials were read and summarized according to the following four major topics:

(1) What was the dominant goal or mission of the dissemination-utilization program being studied, and what were the prevailing strategies for accomplishing this mission?

(2) What were the central assumptions--either explicit or implicit--underlying the mission strategy? That is, how did the dissemination-utilization program frame or define the problem, and what were its assumptions regarding how to effect utilization?

(3) What were the goals, assumptions, and methodologies (scope, design, sample, instrumentation, procedures, analyses) of the study or evaluation of the program?

(4) What were the primary and secondary findings, interpretations, and recommendations advanced by the respective studies?

The material presented in Tables 1-4 has been carefully reviewed and validated by the authors of the initial study reports. This procedure was adopted to assure that we have properly understood and interpreted essential study facts to be synthesized, and to provide the report authors

---

*In the complete synthesis report, the descriptors summarized in Tables 1-4 are elaborated, as are the subsequent cross-study syntheses. For purposes of this conference, and because of space limitations, we can only briefly summarize our key synthesis generalizations. The interested reader should refer to the complete report for a fuller discussion of these study issues and interpretations.

TABLE 1

Brief Description of the Dissemination/Utilization Programs

PROGRAM	PROGRAM GOALS	PROGRAM STRATEGY: SCOPE & RESOURCE
Pilot State Dissemination Program (PSDP)	To stimulate use of comprehensive information and technical assistance resources within school systems; to develop state capacity and commitment to dissemination of educational programs and practices.	Three-year federal contracts (later changed to grants) to three state education agencies to set up and test dissemination capabilities combining centralized information retrieval facilities with decentralized field agents assigned to specific within-state areas to assist school personnel in requesting and utilizing information resources.
Federal Programs Supporting Educational Change (FPSEC)	To stimulate local development and utilization of improved programs and practices in reading (Right-to-Read), career awareness and readiness (Vocational Education, Part D), bilingual education (ESEA, Title VII), and priority areas defined at state and local levels (ESEA, Title III).	Federal "seed money" grants to local education agencies in 50 states: ESEA, Title III -- $150 million/year ESEA, Title VII -- $45-85 million/year Right-to-Read -- $12 million/year Vocational Education, Part D -- $16 million/year
Project Information Packages (PIP)	To provide an effective means for replicating exemplary reading and math compensatory instructional programs in new schools.	Six exemplary projects in reading and math were identified and information packages detailing project materials, scheduling, start-up, and operational requirements were prepared. Nineteen "try out" grants were awarded to LEA's (approximately $100,000/year each) to replicate the exemplary projects on the basis of the packaged (PIP) materials alone.
National Diffusion Network (NDN)	To spread exemplary elementary and secondary educational innovations developed under federal funding and validated by the Joint Dissemination Review Panel to new schools nationwide.	Discretionary grants were provided to 72 developers of exemplary (validated) innovations. Average grant size of $75,000 per annum supported demonstration sites and related activities. Grants averaging $100,000 per annum were also provided to 66 state and regional intermediaries to facilitate the diffusion and adoption of developer projects. A national "network" was created. Developer projects ranged from basic skills to open education, from early childhood education to high school levels, from physical education to district budgeting, etc.
Assistance Strategies of Six Technical Assistance Groups (TAG)	To achieve specified educational changes or reforms (idiosyncratic to specific TAG's) by providing direct assistance services to selected local school communities over an extended period of time.	From over 100 Technical Assistance Groups (TAG's), six successful educational change projects were selected for indepth study to identify the factors relating to their success. No central support agency was involved and each TAG secured support on an ad hoc basis. TAG's differed substantially in their change goals and tactics used. They emerged from traditions of organizational development, alternative education, open education, individualized education, community organizing, formative evaluation, and child advocacy.

TABLE 2

Assumptions Underlying Dissemination/Utilization Programs

PROGRAM	CENTRAL PROBLEM AS DEFINED OR IMPLIED BY THE PROGRAM	NATURE OF CHANGE PROCESS
Pilot State Dissemination Program (PSDP)	Research results and other information constitute potentially valuable resources, but they are under-utilized because school system personnel generally lack the motivation and/or skills required to seek and make use of external resources without the assistance of a personal intermediary.	. Articulation of local needs, interests, and priorities, combined with ready access to information resources, will promote information-seeking behavior. . Provision of information that is relevant to local needs and priorities will promote use of improved practices and programs.
Federal Programs Supporting Educational Change (FPSEC)	Schools lack the "slack resources" necessary to develop and test new and improved programs and practices in response to priorities defined at the national (Title VII, Right-to-Read, Voc Ed) and state or local (Title III) levels.	. School systems are motivated to conduct extensive searches for appropriate innovations. . School personnel will select programs and practices on the basis of rational considerations; school systems will use evaluations to judge the merits of their new programs. . Effective programs will be continued beyond the withdrawal of federal support, while unsuccessful programs will be discontinued.
Project Information Packages (PIP)	Conventional approaches to dissemination of exemplary projects (e.g., ERIC, technical assistance) are both uncertain in their effectiveness and costly in time and resources.	. Most schools are aware of and eager to replace their ineffective math and reading compensatory education programs. . School staff can assess their needs and interests and can select appropriately from among available "improvements." . Essential features of effective projects can be communicated by written materials. . Staff required to implement the effective project exists within the adopting LEA's. . Replication of the essential features of the project will result in replication of outcomes. . The packaging (PIP) model will become cost-effective in that it will reduce time required to implement the project, as well as the costs and uncertainties of in-person dissemination.

National Diffusion Network (NDN)	Because of the large federal investments in the development of exemplary educational innovations, an effective system was needed to improve the diffusion (spread) of these innovations to other schools and communities nationwide.	. Active promotion of validated innovations is needed for widespread adoption. . Adoption is an interactive process involving a progression of adopter stages. . External intermediaries can best serve to "broker" innovations to LEA's, matching LEA needs with program offerings. . "Demonstration" is a necessary component to develop adopter interest and to transfer knowledge. . Adaptation is necessary to develop local commitment and ownership. . Materials and technical support are necessary to sustain adoptions. . Secondary diffusion will occur for well-rooted adoptions.
Assistance Strategies of Six Technical Assistance Groups (TAG)	Rational mechanistic models of the change process were inadequate to a useful understanding of school change and improvement.	. Educational change inevitably entails altering social system aspects of school community. . Change is difficult because school communities are loosely-coupled organizations. . Because of multiple unclear goals, incentives for school staff change are weak. . Given these characteristics of schools, the implementation process is critical in educational change. . Personal contact is a key influence in the adoption and implementation process. . Adaptation of innovations to locally perceived needs is crucial. . School communities are interdependent with other social systems.

TABLE 3
Features of the Studies of the Dissemination/Utilization Programs

PROGRAM	STUDY GOALS	STUDY SCOPE AND METHODOLOGY
Pilot State Dissemination Program (PSDP)	1. To assess the impact of the PSDP on information-seeking behavior among school personnel. 2. To assess the impact of the PSDP on utilization of information. 3. To identify factors contributing to program impact. 4. To identify problem areas.	Two-year field observation of field agents and retrieval operations in each state; case study and descriptive analysis of data. Event-linked survey of over 900 clients requesting information (all clients, in targeted and non-targeted areas, requesting information during a 5-month period in the second year) focused on status of client, response to information, assistance received from agent or others. Review of information request forms associated with clients surveyed to determine nature of request, turnaround time, search(es) conducted, materials provided.
Federal Programs Supporting Educational Change (FPSEC)	1. To provide insight into how the process of innovation operates within school systems and into what factors influence this process and its outcomes. 2. To identify and develop policy implications of findings for future federal efforts to promote change in schools.	Multiyear study conducted in two phases, with Phase I focused on issues of initiation and implementation and Phase II focused on incorporation. Phase I included an in-person questionnaire survey of grant recipients at 293 LEA's, followed by indepth studies at 25 LEA's; regression analysis of survey data, coupled with qualitative analysis and synthesis of indepth studies. Phase II included follow-up visits to 100 Title III sites and 11 Title VII sites.
Project Information Packages (PIP)	1. To discover the extent to which PIP's successfully produce replications of the exemplary projects in new sites. 2. To discover and correct deficiencies in the PIP materials. 3. To assess the extent to which replication sites attain the same pupil outcomes as the originating sites report.	Intensive survey of teaching, administrators, parents, and pupils at end of Years 1 and 2. Detailed observation and interviews of staff and project operations (training, start-up, operations) Years 1 and 2. Discrepancy analysis of implementations. Norm-references and curriculum-referenced analyses of pupil learning. Qualitative analysis and synthesis of pupil effect; parent, teacher, and administrator survey measures; and case studies.

National Diffusion Network (NDN)	1. To provide a comprehensive description of the evolution, organization, objectives, and operating procedures of the NDN. 2. To describe diffusion- and adoption-related processes used by NDN agents and provide insight into how these processes influence adoptions. 3. To evaluate the organizational effectiveness of the NDN and supporting components. 4. To conduct policy analyses on evaluation findings and advance specific recommendations regarding the continuation of the NDN.	Baseline survey of 1,306 client LEA's and an overlapping year-end survey of 1,460 clients to assess initiation, implementation, and continuation processes and events. Extensive survey of all change agents. Case studies of 32 change agents and 35 adopters. Case studies of conferences, training, and teacher assistance components. Multiple regression and qualitative analysis and synthesis of data.
Assistance Strategies of Six Technical Assistance Groups (TAG)	1. To study the internal functioning of individual TAG's. 2. To study the processes by which individual TAG's provide assistance to clients. 3. To study techniques and circumstances that lead to greater or lesser effectiveness of assistance efforts (emphasis on short-term effectiveness of tactics in particular contexts rather than on inter-TAG comparisons). 4. Comparison of similarities and differences across TAG's in a number of selected areas.	Using a social systems perspective (focus on roles, norms, functional subsystems, routines, decision rules, and standard operating procedures), indepth case studies were conducted over 6-week periods on each TAG. Detailed field notes were organized and analysed into sets of "research propositions," both for within-TAG and across-TAG issues, which became the base for case study reports and findings of TAG similarities and differences.

TABLE 4
Key Study Findings

PROGRAM	PROGRAM OUTCOMES AND EFFECTS	EXPLANATION OF EFFECTS
Pilot State Dissemination Program (PSDP)	The PSDP was successful in stimulating information-seeking behavior among LEA personnel. Field agents were uniquely successful in encouraging classroom teachers and others relatively low in the district hierarchy to seek and use external information re- received from practicing educators concerned curriculum and instructional methods.	Attributes that contributed to the success of field agents included: (1) their status as generalists, able to shift roles and willing to respond to a variety of local needs; (2) their position as outsiders to the systems they were attempting to affect; and (3) their lack of power to mandate change. Factors that had both positive and negative consequences for the evolving organizations were: (1) lack of a well-developed model; and (2) organizational dispersion.
Federal Programs Supporting Educational Change (FPSEC)	Federal seed money programs were successful in stimulating initiation of a large number of local efforts consistent with program guide-lines, but many programs were not successfully implemented, and only few were sustained beyond the withdrawal of federal "seed money" support.	Success was due to a host of local, rather than program-specific factors, the most important of which are: (1) problem-solving motivation for initiation; (2) attempt to effect significant changes; (3) strong teacher sense of efficacy; (4) implementation strategy that promotes mutual adaptation of the program and the users; (5) organizational climate receptive to the change being introduced; and (6) high level of local capacity to manage change effort.
Project Information Packages (PIP)	The six Project Information Packages tested were effective devices for communicating management aspects of projects that make use of straightforward commercial materials and instructional techniques. However, structural replication of the management features of an effective project did not guarantee replication of the original instructional program or of the student achievement gains realized at the original site.	The original PIP's lacked extensive curriculum and pedagogical details, which were later supplied in revised PIP's. Yet, even with complete information, some in-person interaction (replicators with change agents) was generally needed. Also, staffing is a crucial component in determining project effectiveness.

National Diffusion Network (NDN)	During the first two years of operation, well over 2,000 adoptions of NDN innovations were effected. Of these, over 1,000 appeared to be thoroughly implemented and well-rooted within the LEA. Ninety percent of the 1,430 LEA's surveyed reported their adopted innovations address important locally-recognized needs; are effectively satisfying these needs; cost their district (on the average) $2,000 or less; and represent clear improvements over previous educational programs or practices. The NDN approach appears to be highly effective in creating wide-scale LEA awareness, interest, adoption, and subsequent implementation of the innovations being diffused.	Factors accounting for successful adoptions were: (1) thorough, persistent, and well-differentiated awareness activities; (2) early involvement of administrative and instructional decisionmakers and emphasis on local commitment; (3) extensive use of in-person tactics at all stages of the adoption process, including follow-up visits; (4) provision of comprehensive and well-developed materials to support adoptions; (5) personal dynamics of the Developer and management skills of the Facilitator; (6) emphasis on practitioner change, phase-in of implementation, and low reliance on expensive resources; and (7) support of LEA visits to demonstration sites. Adoption patterns appeared reasonably uniform by innovation type and geographic area, but disproportionate in terms of school level and district urbanism. Much of the overall NDN success is attributed to effort and enthusiasm of participating change agents.
Assistance Strategies of Six Technical Groups (TAG)	Some major findings are that successful TAG's: (1) have strong leaders who adapt to managerial demands of a complex organization; (2) carefully select and socialize staff; (3) carry out a cycle of analysis and assistance through which they refine a strategy that specifies implications for action in specific situations; (4) become increasingly sophisticated in "mapping" the social systems they are trying to change; (5) carefully plan entry and relationship-building aspects of their work; (6) blend structured experiences like workshops, over-the-shoulder assistance, modeling of desirable practices, and the use of brief well-prepared materials in their assistance efforts; (7) constantly encourage independent initiative by clients; and (8) consciously work for the incorporation of the changes they espouse into the basic social fabric of local school communities.	TAG success is explained in terms of four dimensions of activities: (1) external organization and leadership; (2) effectiveness in attracting and maintaining funds and operating resources; (3) the development and refinement of assistance strategies and tactics; (4) the implementation and adaptation of assistance components to specifics of the client context. The dominant factor, however, is the continuous in-person interaction of TAG's with clients over extended periods of time.

opportunities to clarify and update their reports in light of further analyses or insights.

Capsule Summary of Cross-Study Syntheses and Generalizations

The evidence from the studies included in this synthesis indicates that large-scale directed educational change (i.e., efforts reaching into many schools and districts) is possible, and that such change occurs in an orderly and reasonably predictable (if not yet widely understood) manner. Each study focused on somewhat different change goals and programs for attaining these goals, yet all were keyed to the study of processes and events which might relate to differences in goal attainment. Accordingly, these studies show not only the extent to which intended change is likely to occur, but, more importantly, many of the key conditions and factors which influence its occurrence.

The study of the Pilot State Dissemination Program (PSDP) shows that school staff can and will make use of external sources of knowledge and information and that they perceive such use as leading to improvements in educational practice. The study of Federal Programs Supporting Educational Change (FPSEC) shows that seed money programs do occasionally stimulate major program improvement, but that the process is complex, costly, and by no means certain. The study of the Project Information Packages (PIP) field test shows that school personnel can in fact create operational replications of effective educational projects on the basis of descriptive materials alone, but that structural replication will not necessarily render the new project effective. The National Diffusion Network (NDN) study demonstrates the enormous power a network of innovation developers and regional facilitators have in stimulating and effecting large-scale adoption and implementation of programs developed in school systems. Finally, the study of the six Technical Assistance Groups (TAG's) has identified a number of basic properties that characterize successful change agent operational irrespective of their specific change goals.

With the possible exception of the TAG study,* all the studies reviewed here addressed the general issue of whether and how a given federal intervention strategy (program) stimulated improvement-oriented change.** All are based on the implicit assumption that external intervention of some sort (the provision of slack resources targeted for particular programmatic developments; the support of regional intermediaries to serve as extension agents; the support of various categories of dissemination, demonstration, training, and on-site assistance activities, etc.) is needed to accelerate and/or direct the change process.

Analysis of the findings across these five studies suggest a number of generalizations regarding the nature of the dissemination/utilization process as it affects improvement-oriented change in schools. These generalizations are presented below.

1. Meaningful change occurs as a process, not as an event.

Perhaps the most valuable contribution of the five studies is their combined focus on the processes involved in school change. Taken together the studies suggest that there are two separate but parallel dimensions to this change process: a personal dimension which involves the change process occurring within individuals (cognitive, behavioral, and affective) as they acquire and make use of new knowledge, and a systemic dimension, which involves the concomitant changes occurring in the user environment (organizational, social, political). These separate but parallel processes appear to unfold through a series of three major stages, which have been labelled as initiation, implementation, and assimilation or institutionalization. It is upon the nature, characteristics, and determinants of these parallel dimensions of the change process that we feel the highest research priorities should be placed.

---

*The six TAG's included in the study varied in their change goals, strategies, and type of operational support. Thus, the TAG study did not investigate a federal intervention program per se, but six independent, relatively successful change advocacy programs.

**Improvement-oriented change is defined as modifications to organizational structure, curriculum, teaching practices, etc., undertaken with the ultimate intent of enhancing educational productivity.

2. Directed personal intervention is by far the most potent technical support resource, and may be a necessary condition for many forms of utilization.

Clearly, personal involvement of intermediaries helps to secure broad-scale utilization of new educational knowledge and practices. Appropriate utilization occurs haphazardly in the absence of intermediaries to stimulate and guide it. Beyond this generalization the evidence is less clear, although several propositions appear tenable, each of which needs further study, clarification, and validation. Specifically, we hypothesize that:

a. Direct personal intervention serves to initiate the utilization process, to link users to the most appropriate new knowledge and products, and to guide and reassure users at key points in the utilization process.

b. Direct intervention should be distributed over a considerable period of time (two or more years), with more frequent contacts during the initial stages. Contacts should focus on key administrative and instructional opinion leaders (possibly including community representatives and board members).

c. On-site assistance invariably involves more than communicating the technical and procedural details regarding the use of new knowledge and practices.

3. Continuous personal participation of the implementing staff is needed to firmly root and sustain the utilization.

Continuity of participation by utilizing staff throughout the utilization process is essential. It is not sufficient for a program change to be adopted by one group and implemented by a second; rather, the available evidence suggests that the implementing staff must also, in some fashion, progress through an initiation stage in which they become aware of and interested in the change. As this process unfolds, use and commitment decisions are made, implementation commences, adaptations and refinements occur, and eventual assimilation becomes possible. The vital point is that these decisions and commitments ultimately must be made by the implementing staff.

4. Administrators occupy a crucial role in supporting the utilization process.

Administrators occupy a crucial role in establishing change orientation, in creating incentives for participation, and in supporting implementation efforts by appropriate staff. For most school-level change, the building principal is key, yet higher levels of support are generally needed as well. Overall, utilization occurs most effectively when involved staff perceive such utilization to be in their own interests as well as in the interests of relevant leadership and authority figures. Utilization does not tend to occur in the presence of administration opposition.

5. Comprehensive materials resources at a "how to" level appear necessary, particularly for utilizations involving organizational or instructional change.

When dissemination materials are sorted into three categories--descriptive, instructional, and support--some of the apparent conflict over the importance of materials can be reconciled. Descriptive materials seem to be essential; overdesigned instructional materials (viz., "programmed instruction") can be detrimental; support materials are usually adjunct and are often beneficial at later stages of utilization.

Some Implications for Inservice Teacher Education

It was the feeling of the sponsors of this conference that a number of research findings from recent studies of educational dissemination and change might have some reasonably direct implications for the setting of future research agenda and priorities for teacher education. Quite often the world of the teacher education researcher does not correspond well to the world of the practitioner. Programs developed outside the classroom seldom seem geared to the realities, contingencies, and constraints which operate within educational settings. Consequently, it is not difficult to find teachers who claim there was little if anything in their preservice experience which prepared them realistically for what they faced once they arrived at the firing line. Furthermore, most of the teaching skills they have attained almost invariably were developed "on the job"--usually through some trial and error process, and often by sheer luck (good or bad). Similarly, one finds a consensus of opinion among practitioners that most formal "inservicing" is of little practical value or relevance.

The emerging literature regarding effective change agent techniques and procedures may have a lot to offer in terms of guiding future research on teacher education. This literature examines a variety of efforts to introduce specific change into school settings; it includes studies of the adoption of educational innovations as well as the implementation of mandated programs or procedures. Findings from five such studies were reviewed in previous sections of this paper. These studies were selected for the synthesis in part because the efforts they examined had as their goal the production of actual utilization and change at the practitioner level--not merely the "spread" of information.

We are still only beginning to comprehend the true nature and complexity of the change process in schools. The work of Gene Hall and his colleagues has improved our understanding of how the change process operates at the level of the individual practitioner and has given us a methodology for documenting the process. The congruence of findings from the CBAM research, which has focused on change from the practitioner's perspective, to what has been learned through studies of directed change, which has focused on change from the interventionist's perspective, is striking.

Still needed, however, is research attention to organizational concomitants of practitioner change. This is a particularly relevant issue for inservice programs. We do not have a body of normative information on changes in organizational structure within schools that may be required to support, enable, or predispose practitioner-level change. Maynard Reynold's analysis of implementation problems associated with PL 94-142 is an excellent example of the need for this kind of research information. Similarly, we see study after study identifying administrators as crucial to the change process. Why, then, aren't more studies being launched to clarify and exploit this finding? How well, for example, do our institutions of higher education provide preservice training for school and district administrators? What accounts for the metamorphosis that takes place when a classroom teacher becomes a building principal? What inservicing is provided (or should be provided) to the building principal? What training or assistance is provided (or should be provided) to enhance the principal's role as instructional leader of the school? Should we attempt to restructure the role/image of the principal?

A related research need regards the formation and function of collaborative structures and mechanisms whereby school staff can participate in decision making and priority setting, eventually carrying out their own problem solving, staff development, and program improvement activities. What little research evidence is currently available on this topic suggests that these structures may be requisite to the effectiveness of inservice programs, as well as to the organizational health of the school. Clearly, much more research is needed on this issue.

Another area examined in the change literature with implications for teacher education involves characteristics of effective teaching and teachers. We have only scratched the surface of the complex interrelationship between traits and trainable skills that make for effective instruction. When we study efforts by others to introduce change into schools, we see that successful change agents seek out exemplary staff--who, coincidentally, also tend to be the opinion leaders--to initiate the adoption-implementation process. Gradually, as these key staff gain in experience with the innovation, the scope is expanded to include increasing proportions of the total staff.

Clearly these change agents make use of some system of cues for differentiating these examplary staff. We need to learn more about these cues. Moreover, we need to learn more about the characteristics of these staff that make them exemplary. One interpretation of the available research suggests that interpersonal style may well frame the dominant "teacher-effectiveness" characteristics. This certainly is in line with our observations of traits that change agents appear tuned into when they select staff for initial implementation activities. Obviously the problem is more complex than this; however, the above observation may be useful as a potential guide for future studies.

In summary, there is a steadily growing body of research evidence supporting the proposition that schools in general, and the practitioners in particular, are much more amenable to directed change than the popular press might have us believe. This same evidence, however, further suggests that meaningful change may be a painfully slow process, the rate of which is likely determined by very fundamental psychological and social properties of the human organism. Studies of attempts to influence or expedite this change process (i.e., to direct or accelerate change toward specific program objectives) suggest that change efforts fail when they do not attend to contextual as well as individual variables at the practitioner level.

The time is right and ample opportunities are available to build upon these findings from the change literature in developing future teacher education research agenda. Three such agenda have been suggested in this paper: research on the normative nature and organizational concomitants of practitioner change (particularly the role of the principal); research on the social dynamics of schools (particularly the function of collaborative structures in effecting directed change); and research on the distinctive features of exemplary practitioners who usually constitute the lynchpins in change efforts. Surely many additional agenda can be derived from the change research literature. But the essential point is that schools are made up of, and operated by, people. To change the school is to change the people making up and operating the school. Those change agents who appear successful in influencing school change all exhibit highly refined "people" orientations. We argue, therefore, that to be most useful, agenda for research on teacher education should adopt a social systems perspective, focusing on the dynamics of interactions between the individual practitioner and the context within which the individual operates.

NETWORKS OF TEACHER EDUCATORS:
AN APPROACH TO PUBLIC LAW 94-142

Maynard C. Reynolds
University of Minnesota

"It's like peeling an onion," say the political analysts sometimes on the PBS program, "Washington Week in Review," to indicate the complexity of a new governmental policy. Under an apparently smooth surface may be folded layer after layer of unexpected relations and contingencies. Public Law 94-142* presents such a smooth surface of implications for teacher education. But, as you peel back this outer skin, you find underneath several layers with surprisingly complex and fundamental significance.

Although the provisions of P.L. 94-142 do not speak directly to teacher educators or to the institutions offering teacher training, they reach into every such program. How can personnel in the public schools carry out the mandates of the law if teacher education programs do not prepare them to do so? I and a number of educators have been working at individual teacher education institutions and in a networking capacity to try to make teacher education more responsive to the important new policies regarding the education of handicapped students. We are finding that the problems affect more than the content of a course or two; indeed, they reverberate against our basic concepts of teacher education itself. Let me start with the obvious.

---

* P.L. 94-124 is the Education for all Handicapped Children Act passed by the U.S. Congress in 1975 and made effective in Fall, 1977.

Current Discrepancies Between Teacher Education and Practice

P.L. 94-142 requires, among other things, that individualized educational plans (IEPs) be written by teams of teachers, other school staff members, and parents for every identified handicapped child in the nation. In the Fall of 1978, nearly four million IEPs were prepared. The activity became so pervasive that in one city, bumper stickers appeared on automobiles reading, "How is your IEP?" Needless to say, teachers and other school personnel were not well prepared to formulate the IEPs.

The so-called "mainstreaming" movement for handicapped pupils which started in the early 1970s crystallized in the "least restrictive environment" placement provisions of P.L. 94-142. Teachers are expected to accomodate increasing numbers of children with complex educational problems in their classrooms and to participate in writing IEPs for each such child. More important, perhaps, is parental involvement in this process because it means that the teachers are functioning in public. Nicholas Hobbs (Vanderbilt University Psychologist) has remarked that the teachers' rediscovery of parents may be something like rediscovering Niagara Falls. The teachers have had to negotiate the IEPs--one by one--with parents and to observe due process guidelines. To paraphrase a recent statement of Dean Robert Howsam (University of Houston), we have been laying bare the teacher education situation before the public as never before, and what we reveal is a great deal of incompetency; people are being asked to carry out functions for which they were not prepared.

The teachers facing these important and unaccustomed tasks usually have received little help from their superiors. "Quickie" lessons on "the five essential elements" of the IEP have been provided in most school districts. All that means is that teachers have been taught how to stay out of jail, that is, how to fill out the IEP forms and to get the parents' signatures on them. But little fundamental assistance has been provided.

Despite what is essentially a cover up in these activities, a number of people have perceived and focused on some of the fundamental aspects of the situation. If we peel the onion one layer, for example, we expose some issues like the following:

> The IEP procedure makes it necessary to write specific educational goals and objectives and to apply measurement systems to individual students.
>
> Competence in consultation is necessary because teachers can no longer refer "difficult" children out of their classes until after they have studied them--usually with a psychologist and/or other specialists--and developed individual plans.
>
> Difficult consultation and negotiation problems with some parents require preparation for these new roles.

Much more could be listed but these are some of the fundamental topics for teacher education which have emerged with clarity as school personnel have tried to apply the principles embodied in P.L. 94-142. It is worth noting that none of the preceding topics (writing objectives, individual measurements, professional consultation, working with parents) is unique to special education nor relevant only to handicapped pupils.

Let us proceed, perhaps tearfully, to the next deeper layer of our metaphorical onion. At this level, one becomes aware that there are no adequate arrangements for the necessary time, resources, or incentives for the teacher education job that is required. Somehow, we have never negotiated successfully for the essential life space and resources to conduct either the preservice or inservice education of teachers. Furthermore, the college professors who might be called upon to help in the training usually are not competent in these emerging areas. How many teacher educators are expert in new measurements systems for teaching individuals, in consultation practice, or in parent counseling? Because legal imperatives were directed to the schools and because the colleges were not enjoined directly, the stirrings on college campuses are about two years behind the problems and the turmoil in the public schools. Oh, a few genuflections can be seen on the campus to the new ideas but there are not many whole-hearted converts--except in a few places. We must face the possibility that public school leaders may become discouraged with the unresponsiveness of college faculties and will create their own training cadres as they join the rising chorus of criticism of institutions of higher education.

A deeper layer of concerns which should be examined deals with such difficult problems as funding systems. Often they run counter to emerging school policies or require human classification systems for accountability purposes which are inconsistent with humane services to the individual. Categorical special education funding systems very often create a kind of "bounty hunt" mentality that leads to more and more simplistic labeling of larger numbers of children, separating them from normal school and home life. The labels used may vary from state to state and time to time, depending upon political forces, but we often proceed as if the classifications or labeling systems do indeed "carve nature at its joints." These and similar problems need to be addressed carefully through conceptual and policy analysis, enlisting the best help possible from a variety of scholars--and with as much attention as possible from politicians.

So far, my focus has been on one busy part of the teacher education scene, one in which the basic renegotiation of roles and school structures is occurring. It is a domain of importance, a domain in which the pressures are building up and demands upon school personnel are running rapidly and far ahead of changes in teacher education. The problems that one discovers below the surface are multi-faceted; they give the field high interest, challenge, and potency. A great deal on the teacher education "plate" these days emanates from P.L. 94-142 and, as an economist stated recently, we had better "do it right."

When I used the onion-peeling metaphor recently in a discussion with some teachers, one quipped, "If you peel just one more layer, you'll find you have nothing." I have thought more about his comment recently and I feel it may be true. As we peel the onion toward the fundamental layers of our problems, we seem to expect that we will come to a harder, surer core for the reconstruction of programs. Universities, as they face retrenchment, seem to be sloughing all the applied programs that connect them to the community and making monastic strongholds of the disciplines. This approach appears to be safest for the long pull. Unfortunately, however, in the case of teacher education, as we remove each layer of the onion, our linkages to the academic disciplines seem to thin out in substance and in every other way. In the terms of Karl Weick (1976), the coupling between teacher education and the presumably relevant disciplines may be based on such weak variables tha there is virtually no coupling at all. Or, in the Havelock sense of linkage, the teacher educator--whether turned toward the scholarly side to the disciplines or toward the applied side to the schools--seems to be in an increasingly weak position. Neither the scholarly disseminations from the disciplines nor the needs transmissions from the schools are working out right (Havelock, 1969).

The Deans' Grants Projects

About four years ago, the Bureau of Education for the Handicapped (BEH) of the U.S. Office of Education began funding a set of so-called Deans' Grants Projects. Currently, there are sixty-four such projects in operation; over the full four year period about 125 projects have been funded. They tend to be small grants, averaging about $45,000 per year, and are centered directly in the offices of deans of education for the support of developmental activities to redesign preparation programs in relation to mainstreaming the handicapped for regular teachers and other school personnel. A report of 15 of the projects, with summary chapters on change process, training objectives, and evaluation procedures, can be found in Grosenick and Reynolds (1978).

In connection with these projects, I have been directing what is called a National Support System Project (NSSP) to provide technical assistance to the deans' projects. This assistance is somewhat in the form of Leadership Training Institutes launched under the Education Professions Development Act by Ron Davies a decade ago (Reynolds, 1974). We also have much in common with the ideas of "linking" and "networking" as they have been represented in some of the literature (e.g., Havelock, 1969; Shaw, n.d.). We make field visits to projects, hold topical regional conferences and an annual national meeting, publish a newsletter, and turn out many other products to assist in project work and to help disseminate outcomes of projects to broader targets. We have provided book-length treatments on such topics as domain-referenced testing; consultation with teachers; observational methods of assessment; decentralization of big city, special education programs; minority group children and mainstreaming; new approaches to school psychology; and emerging structures of special education--all designed to support changes in training programs. We are especially mindful of dissemination problems. A small but very able group of deans of education serve as part-time leaders of regional activities and as advisors to the NSSP at Minnesota.*

---

* Currently and recently including Deans Robert Howsam, Dean Corrigan, Bob Woods, Harold Mitzel, Percy Bates, Gordon Klopf, Lorrin Kennamer, and Bert Sharp.

Let me summarize some observations that grow out of this work of trying to build a network for communication among and support of the Deans' Grants Projects.

1. Although colleges at first tend to be somewhat competitive with one another, this attitude begins to break down quickly; genuine trust and sharing behaviors emerge in an advocacy-oriented, non-threatening way. The initial competitiveness is not helped by the fact that the projects have had to compete for federal grants (quite understandably, competition produces a kind of retentiveness about one's best ideas) or that a kind of "monitoring" attitude develops between universities and the USOE. But these hurdles can be overcome.
2. Deans of education--most of them--tend to become disconnected from professional leadership in their own colleges; small "development" grants often help to establish connections and leadership that reaches to departments and programs. It is not uncommon, unfortunately, for deans of education to become so consumed in necessary managerial tasks that they let their leadership in professional matters slip to a tertiary position. It is a surprise to faculties when deans meet with them and ask for a thoroughly professional discussion of emerging issues and for a confrontation with new expectancies. This lack of leadership, too, is not beyond repair.
3. The existing professional bureaucracies are remarkably intractable and slow to respond to forces for change. However, good things often begin to happen as unexpected "extra" resources are provided (with precision) to help energize activities along various lines.
4. Most local projects abort on their documentation-dissemination-diffusion production goals

somewhere short of about the 90% completion point; they will settle for "local use only" products unless they are goaded and assisted in finishing those tasks. It is in this role that an outsider who is aware of what is happening locally can be very useful.

5. There is a serious lack of incentives for most teacher educators to finish off high-quality reports on teacher education projects. The failure seems to be related to the lack of highly credible, top-quality jurying and publication systems for the products of curricular projects.

6. Teacher educators tend to deal with the problems of institutionalization and of dissemination-diffusion-adoption of projects as if they were largely rational processes. To put it differently, they seem to badly neglect the political aspects of these processes.

7. Networks of teacher education projects tend to show the following several patterns of development: (a) With time, increasing attention is given to the more basic aspects of problems. Thus, for example, the problems between teacher education and school practice discussed earlier in this paper are being discovered and resolved in the Deans' Grants Projects. (b) With time, projects begin to be much more systematic about attending to change processes. (c) With time, increasing awareness is shown of the importance of undergirding disciplines and foundation components of teacher education and to units outside of the usual professional studies in teacher education.

8. Teacher educators tend to be greatly appreciative of and responsive to positive attention from position-comparable colleagues in other universities; that is to say, the "networking" ideas seem to pay off in the motivation of teacher educators. There is excitement

in knowing that valued, remote, colleagues are paying attention to what one is doing.

9. Teacher educators seem often to be paralyzed by resource problems. Yet, even small amounts of new money, when they are used with precision to help facilitate exposure to new ideas (e.g., site visits, time for study, or support for a small conference, particularly when they are linked into broader plans for change) seem to be very helpful.

10. Many topics of importance for teacher education are almost untouched in existing preparation programs, even though the knowledge base for them may be reasonably well established. For example, the topics of professional consultation, parent conferencing, and cooperative heterogeneous grouping are all very important in the "mainstreaming" movement but almost untouched in teacher education. Existing systems do not scan for blind spots, nor do they make good provisions to analyze needs and knowledge bases so that appropriate updating of linkages is accomplished to meet emerging problems.

11. As we face new problems we need a new literature, and it needs to be shared in new ways. For example, in recent years special educators have badly needed a shared literature with measurements specialists on biased testing, with linguists on language development problems, with the clinical professions on consultation techniques, and with social psychologists on problems of heterogeneity in groups. We have tended not to develop the new structures for sharing across disciplines and professional groupings to create the needed literature changes. Here is where temporary support systems can help (e.g., Tosi & Carroll, 1976).

Some Areas for Research and Development

In this final section, I should like to speculate on areas for research and development that may be fruitful. My orientation is practical, that is, I shall try to reflect the very real problems and possibilities that have grown out of the work with a number of teacher education institutions in the context of change.

Relationship with Federal Offices

The presence of the federal government is felt strongly in many high-priority fields these days. In general, government agencies tend to make themselves felt in new areas in a very strong regulatory or compliance mode. That is certainly true in the field of special education in which school personnel are up to their ears in compliance activity. In the name of "due process," we sometimes get more process than is due. Also, the competition created by federal funding practices creates retentiveness rather than the desired rapid, effective sharing of ideas and products.

Generally, the federal government is slow to make provision for technical assistance and quick to charge noncompliance. At this moment, for example, most of our large cities are out of compliance with new laws for and court directives about handicapped students. Aside from the fact that this noncompliance may be judged simply to be resistance to or disregard for federal laws and may lead to judicial penalties, an accumulation of noncompliance cases can have the perverse effect of destroying public confidence in the intent of the relevant law.

In general, federal officers tend, I believe, to overestimate their capacity to play the dual roles of monitor and technical advisors/leaders. This is to say nothing of their limited time, unpredictable travel budgets, and like matters.

I suggest, therefore, that a profitable area for research and development may well be a concern with the development and use of temporary systems to support change processes (a) that institutions start voluntarily; (b) that are "soft" or temporary, at least in the sense that they are invested in a given field for only a limited period of time; (c) that are supported in the client base or, if funded by the federal or state government, have a high degree of independence; (d) that operate constantly to strengthen the capacity of the standing structures of the field while conducting themselves as strictly time-limited resources.

More Realistic Approaches to Change

There is good cause for much concern when one discovers that the solutions to the problems of teacher education require reach and power in domains in which teacher educators have few handles and little power. For example, there are compelling needs for more time and resources at all stages of teacher education to meet new training challenges. However, our linkages to some parts of the knowledge base (e.g., professions and disciplines outside of education) and to public policy and political structures are too weak to serve us well. This situation suggests the need for emphasis in such areas as the following:

1. Providing more training of teacher education leaders/administrators in areas of broad policy development and management systems in which political as well as technical contingencies and resources are explicitly considered.
2. Opening up boundaries within universities so that collaborative projects across relevant disciplines and professions become more common. At the moment, there is great need for special educators to interact, for example, with lawyers (on legal problems of

special education), philosophers (on approaches to classification, ethical considerations in decision processes, etc.), and sociologists (problems of dealing with heterogeneous groups), yet connections are often weak.

3. There is need for a broad address to teacher training problems by scholars of many backgrounds in the tough, unstable context of change in the schools. Possibilities for colleagueship among philosophers, evaluators, and trainers have never been greater, yet so often each professional entrepreneur goes his own way, negotiating a small piece of the action with no real structural support for fundamental work or change. How can we better manage these linkages between colleges and the changing school scene of change?
4. How can we connect college faculties more closely with external forces for change so that more energy is available to guide and direct change? It is probably true that special educators, more than most other people in college environments, know many participants in vigorous groups of parents and other advocates for handicapped children. I assume that such contacts are, in the main, a good thing and much needed generally in teacher education.

Better Patterns of Publication

More knowledge and better systems are needed to deal with such questions or problems in the area of publications as the following:

1. How can we create stronger incentives for project developers/teacher educators to finish off their projects with high quality, usable reports?

2. How can professional merit be increased for publications and other products in the field of teacher education?

3. How can we develop more flexibility in dissemination patterns so that as new linkages across disciplines and professions become important, a shared literature is developed.

Conclusions

It has been said that ideas are tested at their margins. This concept, I think, applies especially to education and teacher education. How well does teacher education prepare students for dealing with children who are handicapped, disturbed, or unresponsive? How seriously has teacher education managed the construction of linkages to the relevant sources of our knowledge base and to professionals in practice? Does our literature reflect accurately the task of the day?

At this moment, the field of special education is seeking to renegotiate its relations with regular education and regular teacher education. We are coming from the margins and seeking to be included in more unified structures of the schools and the colleges. But, in the processes of renegotiation one discovers many problems. Indeed, teacher education looks nearly moribund at a time when it ought to be a moving, vigorous force for change. It is time to take seriously some of the long-standing problems of the field. I believe that the field of special education can play a vital role in stimulating the serious re-examination and development of teacher preparation that is so sorely needed.

References

Grosenick, J., & Reynolds, M. (Eds.). Teacher education: Renegotiating roles for mainstreaming. Reston, Va.: Council for Exceptional Children, 1978.

Havelock, R. Planning for innovation through dissemination and utilization of knowledge. Ann Arbor: Institute for Social Research, University of Michigan, 1969.

Nash, N., & Culbertson, J. Linking processes in educational improvement. Columbus, Ohio: The University Council on Educational Administration, 1977.

Reynolds, M. C. (Ed.). National technical systems in special education. Minneapolis, Minn.: Leadership Training Institute/Special Education, University of Minnesota, 1974.

Shaw, M. E. Project open: National network for educational reform. Authors (20 Charles Street, Westport, Conn.). See various publications of Project Open.

Tosi, H. C., & Carroll, S. S. Management: Contingencies, structures and process. Chicago: St. Claire Press, 1976.

Weick, K. E. Educational organizations or loosely coupled systems. Administrative Science Quarterly, March 1976, 1-19.

CHANGE/DISSEMINATION COMPONENT SESSION
SPECIAL DISCUSSANT COMMENTS

Rubén D. Olivárez
Teacher Corps
The University of Texas at Austin

First of all, I would like to say that I enjoyed reading the papers and was most impressed with their content. I am especially supportive of the setting for research that Ann Lieberman proposes. The need for collaboration between universities, school districts and teacher associations is a pressing reality that should no longer be ignored. If we are to realize meaningful research endeavors in teacher education, the "possession of turf" attitude must be positively altered. It would be unfair not to mention that the type of institutional collaboration needed is far down the road unless a significant precedence is established in the near future. I am afraid, however, that such precedence will come sooner as a result of political force with legislated mandates rather than from any procedural changes resulting from the desires and efforts of the teacher education community. The current period of retrenchment in which universities find themselves is proving to show a withdrawal from such notions of collaboration, with the exception of those few institutions which are temporarily engaged in federally funded projects which require it.

I concur fully with Maynard Reynolds as we in Teacher Corps continue to deal with many of the issues and implications of P.L. 94-142. Needless to say, the direction that Teacher Corps is taking in this area is being highly influenced by individuals like Maynard. His reference to teacher education networks is timely. The concept of networking is an intriguing one. How to design and operationalize teacher education networks which have as their main purpose improved teacher education practices through a share and exchange process is the task that Teacher Corps has been dealing with for a few years now. Although we are just now beginning to realize the significant benefits of networks, there is an urgent need for an information base that will help us carry out this task more efficiently and effectively.

I am suggesting the following general issues and questions for consideration. Many of these have been addressed by the presenters throughout the three days and some, I'm sure, have surfaced in the discussion groups.

Issue 1 - Promotion and Tenure

Most colleges of education are structurally fixed in universities in such a way that the direction for change that has been paved by action and scientific research conflicts with the university reward system.

> Question: How can performance standards of university personnel in teacher education programs be changed to appropriately reflect the role of a teacher educator as implied by research findings, and in response to the expectations of the community, school districts, and teachers themselves?
>
> Question: What alternative organizational structures can colleges of education consider in the change process?

Issue 2 - Certification Requirements, Credit Hours, and Accreditation Standards

Because the name of the game is "survival and credit hours" the nature and quality of teacher education programs will continue to be dictated, for the most part, by teacher certification guidelines. In the area of accreditation, standards are so broadly stated that the result is an "everything counts" standard review process.

> Question: What are the key political, economic, and social variables that collectively form the basis for improved teacher education programs, and how can these variables be articulated and manipulated by educational researchers and practitioners to attain needed changes?

Issue 3 - Inservice Education and the Tired Teacher

There are many demands being made of teachers regarding their need to update their teaching skills to comply with mandated changes such as P.L. 94-142, bilingual education, and a host of other areas of educational concerns. Part of the limiting factors relating to staff development of teachers has to do with the competition within the school district organization for teacher time. We all know that the number of days allowed for inservice is not enough. Innovative teacher education programs such as Teacher Corps and Teacher Centers have to settle for the teacher's time after school and on week-ends. There is a need for a research base that will demonstrate and support the long-range educational benefits of teacher release time for professional development. Whatever system is devised for augmenting the amount of time available for training, the basis for the training should rest on solid research about effective strategies for all learners.

The need for information that will assist in developing means for isolating from an array of objectives those which will have the greatest impact in terms of instructional improvement should be of utmost importance to educational researchers and practitioners. It is essential in developing a comprehensive plan for staff development that the plan itself rest on an adequate data base which locates basic causes, not superficial evidences of need.

Issue 4 - Inservice Education and the School Administrator

We have known for a long time that the role of the principal is key to the success of well intended innovative practices. That is now documented in the research cited by Ann Lieberman. The challenge for change is looking at us from two fronts: 1) the practicing school administrator and the arena wherein he/she works and 2) the university's educational administration preparation program and those responsible for it.

> Question: What are the constraining factors that prevent or preclude a closer relationship between those responsible for the preparation of teachers and those responsible for the preparation of educational administrators? How can these constraints be overcome?
>
> Question: As we rethink the role of the principal, what are the new attributes of the role and what are the training implications?

Issue 5 - The Changing Role of the Teacher Educator

Since the purpose of this conference is to generate new issues and questions for research in teacher education and since we all agree that the current delivery system has been for years outdated, should not the lens of research be broadened to include in its focus the content, process, and context of the teachers' education program? In other words, let us observe and describe the teacher educator along with the teacher.

> Question: What is faculty development? How is it planned? Who is responsible for planning? How does one determine the nature and content of faculty development?

I do not think that any real, significant change in teacher education will come about as a result of researchers whose findings continue to be shared and discussed only among university teacher educators. Although there are many in the field who recognize the need for change and enthusiastically acknowledge and verify research findings and their implications for change, the fact still remains that there is very little that can be done for any real significant change to occur. Unless researchers develop effective ways for communicating the specific maladies of programs and specific recommended changes to educational policy makers such as school administrators, local school boards, state boards of education and their coordinating bodies for addressing teacher certification and accreditation programs, state and federal education legislative committees, and significant others, the current state will prevail. Bob Bush describes it as: "We know how to train teachers. Why don't we?"

CHANGE/DISSEMINATION DISCUSSANT REMARKS

Richard R. Brickley
Research and Information Services for Education

As one who is not a teacher educator or a researcher in teacher education, my experiences here at the conference have left me slightly bewildered. I have been continuously confronted with a set of concerns:

- Why does a conference which purports to explore an agenda for research on educating teachers appear to be so preoccupied with research about teaching in basic (K-12) education?

- Is the descriptive knowledge base concerning the practice of teacher education in this country (content, context, etc.) really as abysmally meager as suggested by the various papers?

- Is the gap between teacher educators and practitioners as wide as suggested and are there any feasible incentives presently available to bridge the gap?

In retrospect, I confirm that even the last session, which I here discuss, failed to eradicate these concerns. Perhaps a rereading of the proceedings will help.

Ann Lieberman's overview paper underscored the thinker-actor, theory-practice dichotomy, but more importantly revealed the complexity of transforming field-based research into change impetus for teacher education. If her call is for more immersion of prospective and even inservice teachers in the exploration and explanation of the social organization of the school, I heartily concur. What might be the positive effects of exposing teachers to the real world of the school through ethnographic studies and even direct involvement in field studies to describe context? Perhaps a few courses in "psyching out the school scene, or, how to survive induction and keep your integrity" could result from research into the vulnerability of "improvers" in a modern school bureaucracy. If only Dr. Lieberman could have expanded on her ideas of how the world of the school might shed light on the world of the teacher educator. Do "improvers and describers" populate both domains?

John Emrick's remarks provided a number of expansions on the text of his prepared paper. His synthesis of findings from five recent research studies of the dissemination (diffusion) process in education suggest that research or change in schools may be a bit ahead of research on change in teacher education. Schools have as their clients children and young adults. Teacher education programs essentially deal with adults. Are the emerging notions about bringing about change in teachers applicable to bringing about change in teacher educators? More importantly, what are the parallels and distinctions between the schools as organizations and teacher education establishments as organizations vis-a-vis the findings revealed in the change studies cited by Emrick? What kind of internal/external support mechanisms might be necessary to support change in teacher education?

Despite B. O. Smith's protestation to the contrary, the knowledge base of teacher education is ill-defined. As research (formal and practice-based) produces knowledge, the knowledge ought to be judiciously applied--both to practice in schools and to teacher education. Couldn't the process of getting research into practice be equated with teacher education? In a simple example, one of the federally validated exemplary programs in the National Diffusion Network utilizes college-based teacher educators as their field trainers in school districts adopting their program. Although not involved in the original development of the exemplary program, these surrogate trainers do an excellent technical job of training. Other nationally validated projects only use their own staff, arguing that peer to peer (teacher to teacher) advantages offset the technical deficiencies in training skills of the teachers. Could a research effort produce a means to synthesize the best aspects of both tactics?

Maynard Reynolds' paper especially convinces me that teacher education in the future can continue to make significant contributions to the improvement of schools. The exciting, though incremental efforts of the Dean's Grants Projects promise a pathway to explore incentive systems and resource allocation systems which can respond to the future needs of teachers and schools, even though the impetus is one of decisive legal mandate (P.L. 94-142) rather than professional foresight and planning. It is in the emphasis on capacity building and the interim use of temporary support structures for change in the practice of teacher education that I found the most promising agenda items for the future. Of course, more such structures must be developed before they can be the objects of research. However, here I depart from standard federal strategies; simply, create the structures first, then study them from inception to institutionalization or demise.

Concomitant with this strategy, it is obvious that we must get better maps of the way teacher education is "out there." This is desperately needed, if for no other reason than to project the magnitude of the change/dissemination effort. What do we know about teacher educators as the objects of change efforts or as users of external resources? What do they read? Whom do they trust as advisors to their professional behavior?

Permit me a personal digression. Since I direct a statewide dissemination center, which in addition to technical assistance services provides sophisticated literature searches and other information services, I dutifully ran a computer search on teacher educators as users of external resources. I used terms like "teacher educators" and "instructional innovation." I was after documents which describe how teacher educators act as receivers of external influences. I found almost nothing--only two documents. One that particularly interested me listed the characteristics that teacher educators cite as being the criteria they use to select products for use in their own work of teaching teachers. Factors positively correlated with product utilization included accessibility, degree of experience or familiarity with using that product, and ease of use. The characteristics in information regarded as important to these teacher educators as they made judgments about using products included: relevance to the problem at hand; the speed of acquisition (how quick can I get my hands on it--I need it for tomorrow, of course); currentness; ease in identifying; authenticity, comprehensiveness; and cost of acquisition. What was interesting to me was that we have a very similar list of criteria that are used by classroom teachers in selection of external resources or inputs as they face problems and make decisions. We need research that helps us capitalize on such congruence and helps us better optimize both individual and organizational information styles. Incidentally, there was one finding that was a bit troubling; it indicated that for teacher educators, technical quality of a product was negatively correlated with utilization. My search suggests that there isn't much in the literature about how teacher educators operate in terms of responding to influences which seek changes in their behavior. I do know that before we can begin to apply the findings of the research on change strategies suggested by Emrick's work, we need to know a lot more about how teacher educators operate as users of information, as users of research.

We are great devotees of the emerging "linker" notion in change and dissemination. In Havelock's model (1969), linkers become a boundary spanner between a resource system and a user community. Think for a moment about teacher educators as the user community--who does the linking and to what do they link? Where or who are the National Diffusion Network (NDN), the principals, the facilitators, the gatekeepers of teacher education? Well, I surmise that one of the things they link to is the findings that evolve from research on teacher education. Other speakers at this conference hit on the notion that there are some burning questions about what kind of teacher education makes what effects and, further, that the teaching-learning process has to be fully researched before we can productively change the teacher education experience. However, while we are waiting for the truth, I suspect that it might be useful to decide what we might do with the truth when we get it. How will we share it among teacher educators? Can we effectively borrow the linkage model which seems to be having some utility both at the organizational level and the personal level in the basic educational arena? More importantly, how do we determine what kind of support structures, what kind of incentives, and for that matter, what kind of leadership is going to be necessary to help teacher educators to access what might be useful to them in carrying out their critical function? We must concentrate on getting ready so when the truth does come, we have a way to disseminate it and can change to improve, not just change, teacher education.

References

Havelock, R. G., et al. Planning for innovation: A comparative study of the literature on the dissemination and utilization of scientific knowledge. Ann Arbor, Mich.: Center for Research on Utilization of Scientific Knowledge, Institute for Social Research, 1969.

Research Methodology

Overviewer

Virginia Koehler

Paper Presenters

Walter Doyle

H. Del Schalock

James Cooper

Discussants

N. L. Gage

Freda Holley

> The issue of research methodology requires concerted introspection if the power needed to respond to the questions posed in teacher education research is to be found. Recent advances in methodological concepts and tools such as multivariate techniques and computer technology open new research possibilities. The emerging emphasis on qualitative techniques is noteworthy. Hypothesis-generating research should be supported by experimental studies. Yet there are real limits on the potential of teacher education research and evaluation. The emphasis on individuality and privacy in combination with economic, logistical, and conceptual limitations mean that teacher education research can only do so much so fast. What are reasonable expectations for teacher education research? What can teacher education research tell us in the near future and what is not possible? What methods should be used in teacher education research to provide the best chance of developing new insights and research based knowledge?

Virginia Koehler, Branch Chief, Teaching Program on Teaching Skills Task Force at the National Institute of Education and Conference Overview Presenter was asked to develop a broad review of the different approaches (e.g., quantitative, qualitative) to the design of research, particularly those that are applicable to education and to speculate about what types of questions it is unable to provide answers to in the near future. The paper and remarks were to reflect recent classroom research and learned thought in which she and others have been engaged. (An exhaustive literature search was not an anticipated product.) Implications for teacher education research, and the many issues that are still to be addressed, was to culminate the presentation.

Del Schalock, who is Director of Teacher Education Programs for the Teaching-Research Division at Oregon State System of Higher Education, was a Specialist Presenter. He was asked to focus his presentation on what he had learned from research and evaluation of teacher education programs with a special emphasis on quantitative measures and procedures. He was to then relate these procedures to the issues and questions raised for future teacher education research.

Walter Doyle, Associate Professor in the College of Education at North Texas State University, was to develop his Specialist Presentation on the basis of what he had learned from his qualitative research and ecological analysis of the classroom environment. Conference planners were especially interested in a focus on the induction period of teacher education. The implications of qualitative methodology to the issues and questions raised for future teacher education research were to be emphasized also.

Jim Cooper, Professor in the Department of Curriculum and Instruction and Chairperson of Teacher Education at the University of Houston, was to address a third facet of research methodology. He was asked to report on the works of the developing network of institutions and individuals who have been doing teacher education program evaluation and followup studies. Also, the paper was to point out methodological approaches and issues related to conducting these studies.

The two discussants were asked to respond to the issues raised by the paper presentations. Both have extensive experience in research and evaluation in education. N. L. Gage, a Scholar at the Center for Educational Research, Stanford University, has published widely in the areas of research methodology and classroom research. Freda Holley, Director of the Office of Research and Evaluation for the Austin, Texas, Independent School District, is a national leader in school-based evaluation and influential with respect to directions taken by applied evaluation.

METHOLODOGY FOR RESEARCH ON TEACHER TRAINING

Virginia Koehler
Teaching and Learning Program
National Institute of Education

I. Introduction

Recent discussions of classroom research methodologies have tended to focus on the quantitative vs. qualitative issue (e.g., the complete issue of the Anthropology and Education Quarterly, VII, ii, 1977). The distinction between quantitative and qualitative approaches, while it has been helpful in promoting a type of research which has been largely neglected in research about the classroom and school, eventually breaks down when actual cases are closely examined. While there are pure examples of each, there are also, increasingly, "mixed" cases where it is difficult to determine where qualitative ends and quantitative begins (or vice versa). A possibly more useful approach to analysis of methodologies may be to view conceptions of research--purposes, types of questions asked, intellectual interests, etc.--and to determine how methodologies are related to various elements of these conceptions. Methodologies are very closely tied to purposes; therefore, an understanding of methodologies may be enhanced by knowledge of the ways in which methodologies grow out of conceptions of research.

The purpose of this paper, then, is to discuss two very different conceptions of research, and their relationships to their methodologies. The implications of this distinction for research on teacher training will then be discussed. The categories are neither all inclusive nor mutually exclusive. The examples of the two types are, in large part, drawn from classroom studies. While the distinction appears to make sense for research on teacher training, it is also clear that research on teacher training has its own set of unique dimensions and may require somewhat different conceptions and methodologies.

The two conceptions of research are that of "descriptive" and "improvement."* The primary difference between these two conceptions lies in the type of questions being asked. With respect to the organization of instruction of basic skills, for example, the describer would ask: "How are basic skills programs organized?" The improver would ask: "What are effective classroom organization strategies for teaching the basic skills?" This distinction is tied to differences in the degree of explication of the criteria of effectiveness or good practice; and to the degree of interest in variance in processes. The research methodologies are very different, and must be evaluated in relation to the purposes of the research.

II. Improvement Research

The purpose of improvement research is to produce findings which will be of direct use to educators who are attempting to improve educational practice. It is expected that information from improvement research will provide guidance for changes in such processes as teacher behaviors, allocation of resources, physical structure of the school, curriculum materials; or to provide guidance to decision makers regarding the funding of programs or the selection of personnel. Ideally, then, there is a direct relationship between the results of improvement research and prescriptions for change. The variables which are chosen are those deemed amenable to change. The criteria of effectiveness or success must be explicitly stated and operationalized, and judgments regarding effective or less effective processes are related to the criteria.

---

* These two terms were first used by Gage (1966). The terms may seem similar to some definitions of basic and applied research. However, "descriptive" and "improvement" seem more descriptive of research on classroom processes. Further, use of "basic" and "applied" would place the paper in the middle of a controversy which is distant from the purposes of the paper.

Two types of improvement research will be briefly described here: process/product and evaluation research. Process/product studies are designed to delineate causal relationships between classroom processes, such as teacher behaviors, and outcomes. The purpose of these studies is to provide information on effective teaching skills, behaviors and/or competencies to be used in teacher training, licensing and selection. The model assumes a one-way causal relationship between teacher behaviors or other classroom processes and student behaviors, although causal direction cannot, in fact, be determined with the correlational designs which are used most prevalently in process/product studies.

Process/product correlational studies (i.e., MacDonald & Elias, 1976; Stallings & Kaskowits, 1974, Soar, 1973; Brophy & Evertson, 1974) require a relatively large sample of classrooms in order to guarantee variance in both process and outcome, and to permit statistical analyses--generally significance tests of relationships--to be performed on the data. A number of context variables such as subject matter, grade level and socioeconomic status of the classroom population must be controlled since these factors have been found to mediate between processes and outcomes. In addition, since various statistical analyses are used to relate processes and outcomes, the variables selected must be quantifiable. Therefore, the observation measures which have been developed allow the observers to record instances of certain types of behaviors such that these instances can be added up to indicate the number of times a teacher exhibited the behavior.

Process/product experimental studies, which attempt to change teacher behaviors in ways suggested by correlational studies to determine if these changes affect student learning (i.e., Gage & Crawford, 1978; Good, Ebmeier & Beckman, 1978; Anderson, Evertson & Brophy, 1978; Stallings, Cory, Fairweather & Needels, 1978), require smaller samples. However, they also require carefully selected experimental and control groups to take into account the context variables which have been shown to be important. In experimental studies, classroom processes as well as outcomes are recorded since two questions are being asked: Did the teacher behavior change in the expected directions, and did these changes produce changes in student achievement?

Evaluation studies attempt to determine what the effects are of a specific treatment such as a new curriculum or a new "program" such as a Follow Through program. There are many different ways of conducting evaluations--methods which have been enumerated many times (e.g., Borich, 1978, on evaluating teacher training programs; or the Joint Dissemination Review Panel guidelines). But basically, the questions being asked are: Does the treatment do what the developers stated it was supposed to do; and, sometimes, if not, what else does it do? Recently, a general concern with the degree of implementation of treatments has led to the development of evaluation designs which resemble process/product studies (i.e., Cooley & Lohnes, 1976; Leinhardt, 1977). In such cases, the traditional question concerning "a treatment" becomes extremely complex, since the treatment, if implemented, is considered as only one element of the process. It then becomes extremely difficult to say anything at all about the effects of the treatment, particularly if other process variables prove more potent in affecting the outcomes of interest.

Following Campbell and Stanley (1968), a good evaluation design requires a sample of from five to ten in each treatment and control cell, and, hopefully, random assignment to the treatment and control groups. It also requires pre and post measures for the outcome variables, and for process variables, should they be assessed (as in the case of certain teacher training evaluations).

Both process/product and evaluation research have generated a set of methodological issues which keep statisticians and analysts busy. These issues are related to the purposes of the research. Since the research is to speak directly to practice, the goal is to state in probabilistic terms the relationship between inputs and/or a set of processes, and an outcome. Therefore, the "cannons of scientific inquiry" are applied to research designs and data analyses. Laboratory research is frowned upon since context is considered to be an important mediating factor in instruction and learning. But research in the "real" world of education leads to problems. Education is a complex social process with continually shifting goals, attitudes, processes, philosophies, and content. It is hard to hold it firm long enough to obtain knowledge which will be of use to educators in the future.* There are further complicating factors which provide grist for the methodologist's mill. The major problems seems to be that the assumptions behind the statistical models cannot be met in the real world.

Even simple significance tests such as the Chi Square assume a random sample. Only with very general surveys can we ever hope to approach "randomness," and even then we generally have to deal with a large non-response problem. For ethical and practical reasons, teachers and parents of students must agree and/or volunteer to be researched and treated. This makes random assignment difficult, and creates other problems such as non-equivalent control and experimental groups. The unit of analysis issue--Does one use the class mean as the outcome measure, or work with the student as the unit of analysis?--has yet to be resolved. The problems with each type of analysis design are so severe that the common "solution" advocated today is that multiple analyses be performed on the same data base (e.g., Fred MacDonald performed multiple analyses on the Beginning Teacher Evaluation Study data; MacDonald & Elias, 1976). However, a major problem then becomes one of interpreting multiple results. Other methodological problems have been catalogued and described elsewhere (e.g., Koehler, 1978).

---

* This is particularly a problem with longitudinal research. The problems which seem important today and require longitudinal research to answer may not be important at the point that the data is finally collected.

There are further problems related to the lack of adequate statistical models to handle more complex conceptions of classroom processes. For example, the process/product paradigm assumes a one-way causal relationship between teacher behavior and student behavior. However, we have the intuitive sense that this model is incomplete. Student behaviors affect both teacher behaviors and each others' as well. In other words, there is a "classroom effect," and a true interactive process which cannot be captured by existing quantitative models. This factor is felt to relate to the differences in results in using the student rather than the class as the unit of analysis as well as the lack of stability in an individual teacher's effects from year to year. Simultaneous equations have been proposed. but the assumptions (such as the independence of the independent variables) are divergent from reality.

In sum, the difficulties of conducting research which will be of direct use to educators and policy makers--many of which only become apparent after the data has been collected--has led to more and more complex and sophisticated measurement and analysis designs which makes interpreting the results extremely difficult. Perhaps, as Lutz and Ramsey (1974) have eloquently overstated, these designs are much too sophisticated for the rather weak conceptual bases which guide the research:

> Variables are operationalized because there is some available printed test with some kind of statistical reliability and validity measure, and after data are collected it can be submitted to a computer for an analysis usually much too esoteric and powerful for the nature of the hypothesis. In such a case, the hypothesis is not grounded, the variables may not be recurring or important, the operational measures may have little relationship to operational reality, and the statistic used to test this ill-conceived hypothesis and the number in the sample make the test of it much more powerful than the hypothesis is compelling.

Recently, there have been a number of attempts to improve the conceptual bases by using qualitative descriptive research to augment the quantitative data collection and analysis. For example, the evaluation of the rural Experimental Schools program included the descriptions of ethnographers who lived for several years in the Experimental Schools communities. But incorporating the ethnographic accounts into the more quantitative designs has been a problem. Berliner and Tikunoff (1976) solved that particular problem in the Beginning Teacher Evaluation Study by categorizing the dimensions which ethnographers used to describe the classrooms of effective and less effective teachers. (The ethnographers did not know which teachers were effective and which less effective.) They then counted instances of the dimensions in the protocols, and found 61 dimensions which differentiated between the more and less effective teachers of grade two and grade five, reading or math. This study represents a rare attempt to incorporate ethnographic research within an improvement design.

One solution to the many methodological problems which beset improvement research would be the development of more adequate constructs of the teaching/learning process. Conceptual clarity would help to logically link outcomes of interest to instructional processes, thereby reducing the number of variables being measured. Conceptual clarity would aid in measurement development and hopefully reduce the time-consuming process of data reduction. We will now move to a type of research which may be useful in providing that conceptual clarity.

III. Descriptive Research

The purpose of a descriptive study is to make sense of (understand) or produce knowledge about a phenomenon. The phenomenon can be a specific learning process, teachers' decision-making processes, the organization of a school, the attitudes of the public toward the effectiveness of schooling, etc. Descriptive studies range from large-scale attitude surveys to ethnographic studies of the learning/teaching process within a classroom, to linguistic studies of one child acquiring language skills. In a descriptive study, there is no explicit statement of criteria of effective, successful or good processes. The aim is theory development to be used in understanding what is happening, and/or how or why things happen the way they do. There is no direct or logical relationship between the results of a descriptive study and prescriptions for change; nor, in most cases, is there meant to be. It is the process which is of immediate interest, not the effective process. Comparative work is conducted in order to describe either differences in the ways individuals react to different contexts, or the ways in which different individuals react to the same context. There is still no judgment as to which is the "best" context. Recently, qualitative designs have been associated with descriptive classroom process research. However, there is a long history of quantitative designs in survey and information processing research related to the teaching and learning processes.

Several types of currently popular descriptive research will be mentioned and briefly described:

1. Ethnographic/Ethnomethodological/Ecological Research. Numerous definitions of this class of research exists. My nouveau understanding of the area has been enhanced by Erickson (1977, 1978), Ogbu (1978, & personal correspondence), Doyle (1978, a & b), Mehan (1978), Apple (1978), Tikunoff & Ward (1977), and others. All three types of research are conducted naturalistically, and use qualitative data collection techniques. Ethnographic classroom or school research attempts to explain classroom processes and the ways in which the participants make sense of their experiences on the basis of cultural or sociological factors such as community norms and attitudes toward schooling. Extensive field notes or protocols of processes are kept. The ethnomethodological approach attempts to describe the ways in which social structures are created by interactive behaviors (Mehan, 1978). The ethnomethodologist uses video and audio tapes to capture the interaction and utilizes linguistic and/or sociological constructs to describe the processes. In other words, as Apple (1978) pointed out, ethnographers explain why and ethnomethodologists explain how participants view their experiences and behave as they do.

The classroom ecologist pursues similar goals as the ethnographer, but attempts to explain participants' behaviors on the basis of school or classroom structures. While the ethnographer and ethnomethodologist vigorously pursue the "participants' perspective,"* the ecologist is more concerned with developing constructs which make sense to the observer. The ethnographer approaches classroom observation with a set of construct which are borrowed from anthropology. The ecologist expects that a set of constructs, which are indigenous to the classroom and the school, will emerge from intensive observation (Doyle, 1978a).

2. Descriptive Evaluation Research. Recently, many traditional evaluation designs (i.e., pre-post measures; control and experimental groups) have been augmented by descriptive research. The descriptive evaluator records processes after a treatment has been introduced (seldom is it a pre-post design). In most cases, the work is not comparative, and the relationship between the research and prescription for change is ambiguous.

An example of descriptive evaluation research is Wolcott's Teachers Vs. Technocrats (1977). Wolcott was asked to observe and describe, from an anthropological viewpoint, what happened when an innovation was introduced at a school. Wolcott developed a structural model to explain the development, implementation and de-implementation phases of a new accountability system. The book describes, it does not prescribe. One paragraph in the last chapter rhetorically asks what would happen if the various subgroups were to act less competitively (p. 243); but, in general, the lessons to be learned are those which would suggest that intervention is an extremely complex and difficult process.

---

* The participants' perspective is an elusive concept. [illegible]son (1977) suggests a model of validation which includes having the particiapnts view the videotapes and critique the researchers on their analyses. But it is first necessary to explain the researchers' construct to the participants. The concept, then, is possibly more properly labelled: "through the eyes of the participant who comprehends the researchers' constructs."

Another type of description evaluation study is that which describes change processes when an innovation is introduced. Gene Hall's research (1978), for example, describes what happens to school personnel when an innovation is introduced. Hall has used quantitative and qualitative research to test his descriptive model, and has developed a number of measures to assess personnels' stages of concern and the degree of implementation of the innovation. This research addresses practice in a similar manner to all descriptive stage theories: teachers at each stage of concern behave very differently. This has implications for the way in which an innovation will be adopted, and for teacher training programs. The model, however, does not prescribe the nature of the intervention process which would move a teacher from one stage to another.

3. Descriptive Experimental Studies. Descriptive experimental studies of teachers and students aim at the development of models or theories of basic cognitive processes such as teachers' decision-making and planning processes, and students' information processing, learning and problem solving strategies. The interest can be in the learner or the instructor, and the researcher utilizes an experimental (or simulation) approach to control for context, stimulus or task. Examples of such research are Yinger's (1977) study of teacher planning using ethnographic and information processing methods (the latter method being experimental), and Richard Shavelson's series of studies of teachers' decision-making processes as exemplified in Borko (1978), and Russo (1978). In these studies, the tasks which the teachers were asked to perform were simulated. Michael Cole (1977) is conducting a comparative study of children's learning on similar tasks in two different contexts (the classroom, and a play group center which Cole runs.)

A major difference between experimental descriptive and improvement research is that the improvement research requires a control group, and assesses the impact of a treatment. The describer controls contexts and tasks to more clearly understand and describe a basic cognitive process which, it is expected, takes place in the classroom but which would be difficult to assess there. The experimental context and tasks are not considered as "treatments."

The most prevalent methodological criticism of descriptive research is related to its lack of generalizability. Ethnographic research often explores only one site, be it a classroom, school or community. Descriptive evaluation research uses a small sample. Experimental descriptive researchers may pay somewhat more attention to sample size, but certainly not to representativeness. The reason generally presented for small sample size is cost: since indepth extensive observation is required, a large sample size would be prohibitive. But, in fact, generalizability is viewed very differently by the describer than by the improver, and unlimited funds would probably not increase the sample size by very much. Since the intent of the describer is to develop and describe a way of thinking about a phenomenon, sample size is not of concern. One site is as useful as another with similar contextual features and additional sites would not necessarily add to our understanding. In experimental descriptive research, since basic cognitive processes are being described, representativeness is also not an issue. A small sample of any group of teachers should indicate the ways in which 'teachers' make instructional decisions. David Hamilton (1978) recently described a way of thinking about generalizability for case studies which would, he feels, be more useful than statistical generalizability. Generalizability, he suggests, is in the eye of the reader: if the situations, contexts, behaviors and understandings arrived at and described by the researcher are understood and helpful to the reader, the research is generalizable. Hamilton's distinction between statistical and cognitive generalizability is similar to the distinction between statistical and educational significance.

A more valid methodological criticism of qualitative descriptive research is related to the processes of data reduction and analysis. Massive amounts of data are collected, and the processes of reduction and analysis difficult. The analysis procedures are often not discussed in the final report and appear quite magical to the reader. Newcomers to the field of qualitative descriptive research often express dismay at the great quantities of data and the paucity of extant analysis procedures. But as Hymes (1977) has pointed out, ethnographic research can and should be as rigorous as quantitative research. Erickson (1977), for example, has developed a complex and systematic procedure for data reduction which involves participation of the observed teachers. Perhaps the availability of protocols and videotapes for secondary analysis is as important in descriptive research as it is in improvement research.

Probably the most difficult issue with respect to descriptive research is related to predicting, at the proposal stage, its relationship to the improvement of practice. Every phenomenon is of interest to someone, and each descriptive study begets additional questions which will fascinate one or another researcher. But education is an applied field, and criteria for funding and judging quality of final product must go beyond fascination to some concept of potential use. In that descriptive research is not logically related to the improvement of practice, such judgments are difficult to make. And research which focuses on the learner is even further removed from educational practice improvement than that which focuses on the teaching/learning process. This is not to say that descriptive research is of no use to the practitioner. It can be. Better understanding of one's own situation, and knowledge of learning processes can improve curricula and instructional procedures; but the direction of the change itself is not prescribed by the research.

There is, however, another audience for descriptive research besides the practitioner: the improvement researcher. Descriptive research, by describing how context interacts with processes and behaviors can provide important hypotheses for improvement researchers to test. It can point to variables which have been neglected in improvement research, and can provide suggestions as to why an intervention did or did not work. In short, descriptive research can provide conceptual clarity which should lead to better measures of more relevant variables, and to more parsimonious research designs requiring less complex methodological devices. This should enable improvement researchers to address, less ambiguously, the improvement of practice.

IV. Implications for Teacher Training

The various accountability movements, including state-wide competency testing programs, and new demands such as equity in education have placed great burdens on educational systems which are also under severe budgetary constraints. As schools have been asked to do more for less, the concern for effective teacher training has increased. School districts ask for effective inservice teacher training programs. Schools of education are being asked to prepare new teachers for such challenges as bilingual education. And research agencies are being asked to supply all of the answers related to effective teacher training.

As we enter a new phase of interest in and funding for research on teacher training, it is clear that the decisions concerning the types of research to support will significantly affect the research field, and, eventually, practice. The initial conceptualization phase will probably be the most crucial. Our concepts of what teacher training is and can be, our understanding of its limitations, and our criteria of effectiveness all require hard work at this time, and different types of research can bring more or less clarity to these concepts.

There are major differences between research on teaching and research on teacher training. Research on teaching defines and describes effective teaching, and therefore the content of teacher training. Teacher training research is concerned with the change and development processes. Nonetheless, the conceptions of research described in the previous section may be useful in thinking about research on teacher training.

The descriptive teacher training researcher would be interested in the phenomena of teacher change (a focus on the learner) and/or the processes of teacher training and selection (focus on instruction). The kinds of questions that the describer would ask are related to the what's, why's and how's of the change and selection processes. Who becomes a teacher? Why? What are the selection processes? Why are these particular selection processes used? How do teachers change their practices? Why do they change? What are the various change and maintenance activities? How do these activities differ in relation to their goals? Why have these and not other programs been developed and used? What do the teachers actually learn in these programs? Do they use this learning in the classroom? If not, why not?

The improvement researcher is concerned with effectiveness practices. A criterion for effectiveness is chosen, and evaluative or process/product research is conducted. Evaluation research would attempt to determine whether a teacher training program achieved its goals. Process/product research would attempt to determine which practices are most effective in achieving a criterion.

While a substantial number of teacher training evaluation studies have been conducted, they have not been well received. Very few process/product studies have been conducted. The reason is probably related to the difficulties in choosing the criteria of effectiveness (Lanier & Floden, 1977). The bottom line for teacher training is student achievement. But just as there are numerous intervening processes and mediating variables between teacher behaviors and student achievement, there are even more between teacher training and student achievement.

Descriptive and improvement research are not necessarily linearly related. Descriptive work can feed into improvement research to improve variables and measures. Improvement research has an integrity of its own and can be conducted at the same time as descriptive research and can inform descriptive research.* However, since research on teacher training requires extensive conceptualization, descriptive research ought to be emphasized initially. Descriptive research can provide us with an understanding of the contexts of various types of teacher training programs, on the forces which cause teachers to change--some of which may not be related to teacher training but to, for example, adult developmental phases; and information on what teachers actually learn from teacher training programs. The latter will be extremely important for criteria setting and measurement, as well as program improvement. Improvement research must continue, however. School boards and state legislators are requiring evaluations of inservice programs; and are demanding to know which programs are effective in improving education.

A number of methodological lessons can be learned from research on effective teaching which are appropriate to research on teacher training. The first concerns both descriptive and improvement research; the last three specifically, process/product, evaluation, and descriptive research respectively.

---

* An example of this would be a descriptive study of the phenomenon called "teacher efficacy," a variable which has emerged in several process/product studies of school level change and achievement.

1) Collaborative Research. There has been great emphasis, recently, on the development of models of research which involve practitioners at every stage. For example, the Institute for Research on Teaching involves practicing teachers in all of its project, and Tikunoff, Ward and Griffin (1979) are evaluating a model which brings teachers, teacher trainers and researchers together to conduct research. While receiving much attention, such approaches have not, except for the Tikunoff/Ward/Griffin project, received much descriptive or evaluative attention. Nonetheless, verbal comments from both researchers and practitioners give some indication that collaborative research increases the potential of useful findings. While all research does not call for collaboration, such models ought to be carefully explored and considered for both descriptive and improvement research on teaching training.

2) Process/Product - Intervening Processes. A major breakthrough in teacher effectiveness research was the introduction of student behavior variables in the process/product models of instruction. In developing models of effective teacher training, intervening variables should be carefully considered, conceptualized, and measured. This will require extensive conceptualization since such intervening processes must be logically related to instructional processes and outcomes; however, without them, process/product research in teacher training will probably produce the same types of inconclusive findings which were produced in the early years of teacher effectiveness research.

3) Evaluation Research - Impelementation. Evaluative research which ignores process, either in terms of the degree of implementation of the treatment or the degree to which other processes interact with the treatment to produce variance in results, will not produce particularly useful

results. Therefore, teacher training evaluation researchers should adapt and develop models of research which take into account both the implementation of treatment, and other instructional processes.

4) Descriptive Research - Comparative. While it is true that a theory can be developed on the basis of intensive observation of one example of a phenomenon, such a theory may be based on certain anomalies. Even this would be acceptable as long as the theory included a discussion of the specific contribution of the anomalies. This could not, in fact, be possible with an n of one. Therefore, comparative designs would be useful. If one wished to understand the effect of a context on the behavior of participants, it would be desirable to observe behavior of the same individuals in several contexts. If one were to analyze the effects of the introduction of an innovation on a school, it would be desirable to observe a school where no innovation is being introduced. While it is true that every research question does not require a comparative approach, much descriptive research would benefit from a somewhat expanded and comparative framework.

Research on teacher training has its own unique problems, such as the criteria issue and the longitudinal nature of the effects of training. Nonetheless, lessons can be learned from research in other substantive areas, the most important of which is that research which leads to conceptualization at the initial stages is essential to the conduct of effective improvement research, and to the improvement of practice.

References

Anderson, L., Evertson, C., & Brophy, J. An experimental study of teaching effectiveness in first-grade reading groups. To appear in Elementary School Journal, 1979, University of Texas Research and Development Center for Teacher Education.

Apple, M. The new sociology of Education: Analyzing cultural and economic reproduction. *Harvard Educational Review*, 1978, *48*(4), 495-503.

Berliner, D., & Tikunoff, W. The California Beginning Teacher Evaluation Study: Overview of the ethnographic study. *Journal of Teacher Education*, 1976, *6*, 283-318.

Borich, G. *Three school based models for conducting follow-up studies of teacher education and training*. Paper prepared for Organization for Economic Cooperation and Development (OECD/CERI), Paris, 1978.

Borko, H. *An examination of some factors contributing to teachers' pre-instructional classroom organization and management decisions*. Paper presented at the Annual Meeting of AERA, Toronto, 1978.

Brophy, J., & Evertson, C. *Process/product correlations in Texas Teacher Effectiveness Study*. Final Report. Austin, Texas: University of Texas Research and Development Center for Teacher Education, 1974.

Campbell, D., & Stanley, J. Experimental designs and quasi-experimental designs for research on teaching. In N. Gage (Ed.), *Handbook of research on teaching*. Skokie, Illinois: Rand McNally, 1963, Chapter 5.

Cole, M. *The effect of differential classroom organization on the learning of classroom discourse rules and cognitive content*. Proposal to the NIE, 1977.

Cooley, W.W., & Lohnes, P.R. *Evaluation research in education*. New York: Irvington Publishers, Inc., 1976.

Doyle, W. *Task structures and student roles in classrooms*. Paper presented at the Annual Meeting of AERA, Toronto, 1978(a).

Doyle, W. *Classroom ecology*. Paper presented at the Annual Meeting of the AERA, Toronto, 1978(b).

Doyle, W. Paradigms for research on teacher effectiveness. In L. Shulman (Ed.), *Review of research in education* (Vol. 5). Itasco, Illinois: Peacock, 1977(b).

Erickson, F. 'Mere ethnography': Some problems in its use in educational practice. Address at the Meeting of the Council on Anthropology and Education, Los Angeles, California, November, 1978.

Erickson, F. 'When is a context?' Some issues and methods in the analysis of social competence. *Quarterly Newsletter of the Institute for Comparative Human Development*, The Rockefeller University, 1977, *1*(2), 5-10.

Erickson, F. *The communication of social meaning in subject matter instruction.* Paper presented at the Annual Meeting of AERA, Toronto, 1978.

Gage, N.L. Research on cognitive aspects of teaching. *The way teaching is.* Washington, D.C.: ASCD and NEA Center for the Study of Instruction, 1966.

Gage, N., & Crawford, J. *An experiment on teacher effectiveness and parent-assisted instruction in the third grade: Volume 1. Preliminary Final Report.* Palo Alto: Center for Education Research at Stanford, 1978.

Good, T., Ebmeier, H., & Beckerman, T. Teaching mathematics in high and low SES classrooms: An empirical comparison. *Journal of Teacher Education*, September-October, 1978, 85-90.

Hall, G.E. *Concerns-based inservice teacher training: An overview of the concepts, research and practice.* Austin, Texas: Research and Development Center for Teacher Education, 1978.

Hamilton, D. *On generalization in the educational sciences.* Paper presented at the Seminar on Field Methodologies in Educational Research, sponsored by Wisconsin Research and Development Center for Individualized Schooling and the Johnson Foundation, Racine, Wisconsin, 1978.

Hymes, D. Critique: Assessing language development - Written and/or oral. *Anthropology and Education Quarterly*, 1977, *8*(2), 91-92.

Koehler, V. Classroom process research: Present and future. *The Journal of Classroom Interaction*, 1978, *13*(2), 3-11.

Lanier, J.E., & Floden, R.E. *Research and development needs for the advancement of teacher education* (Research series No. 8). East Lansing: Institute for Research on Teaching, 1977.

Leinhardt, G. Program evaluation: An empirical study of individualixed instruction. *The American Educational Research Journal*, Summer 1977, *14*(3), 277-293.

Lutz, F.W., & Ramsey, M.A. The use of anthropological field methods in education. Educational Researcher (II), 1974, 5-9.

MacDonald, F., & Elias, P. Beginning Teacher Evaluation Study, Phase II technical summary. Sacramento and Washington: California Commission for Teacher Preparation and Licensing and the NIE, 1976.

Mehan, H. Structuring school structure. Harvard Educational Review, 1978, 48(1), 32-64.

Ogbu, J. Minority education and caste: The American system in cross-cultural perspective. New York: Academic Press, 1978.

Russo, W.A. Capturing teachers' decision policies: An investigation of strategies for teaching reading and mathematics. Paper presented at the Annual Meeting of the AERA, Toronto, 1978.

Soar, R.S. Follow-through classroom process measurement and pupil growth (1970-71). (Final report). Gainesville: College of Education, University of Florida, 1973.

Stallings, J., Cory, R., Fairweather, J., & Needels, M. A study of basic reading skills taught in secondary schools. Palo Alto, California: SRI International, 1978.

Stallings, J.A., & Kaskowitz, P. Follow-through observation evaluation 1972-1973. Menlo Park, California: Stanford Research Institute, 1974.

Tikunoff, W., & Ward, B. Effective teacher education program - Some selected findings from three studies. San Francisco: Far West Laboratory for Educational Research and Development, 1979.

Tikunoff, W., Ward, B., & Griffin, G. Interactive research and development on teaching: Executive summary. IR & DT-79-12. San Francisco: Far West Laboratory for Educational Research and Development, 1979.

U.S. Department of Education. Joint dissemination review panel ideabook. Washington, D.C.: Author, 1977.

Wolcott, H.F. Teachers vs. technocrats. Eugene, Oregon: Center for Educational Policy and Management, 1977.

Yinger, R.L. A study of teacher planning: Description and theory development using ethnographic and information processing methods. Unpublished doctoral dissertation, Michigan State University, 1977.

RESEARCH ON TEACHING
IN CLASSROOM ENVIRONMENTS

Walter Doyle
North Texas State University

> We are. . .impressed by the fact that most novices do manage to maintain discipline in their classes, and that critical attention is usually directed only to the conspicuous failures of discipline, but that few scholars ask how the stunt is performed (Wax & Wax, 1971 p. 11).

> Language usage--i.e., what is said on a particular occasion, how it is phrased, and how it is coordinated with nonverbal signs--cannot simply be a matter of free individual choice. It must itself be affected by subconsciously internalized constraints similar to grammatical constraints (Gumperz & Hymes, 1972, p. vi).

This paper contains a summary of a study of the induction of student teachers into the classroom environment and a statement of possible research questions that flow from investigations of this nature. In the context of research on teacher education, the induction study was distinctive in three respects. First, it was a study of how teachers learned to teach in classrooms rather than how they were taught to teach by deliberate, planned interventions. Such a focus placed special emphasis on the natural processes of becoming a teacher. Second, the study was based on a naturalistic or qualitative methodology, an approach that has attracted considerable attention in recent years. Finally, the inquiry was directed to explicating the event structure of classrooms and to building a general conceptual scheme for interpreting classroom phenomena. Work along these lines promises to supply a much-needed theoretical foundation for research on teacher education.

The Induction Study

What follows is a brief summary of the induction study with particular attention to how the study was conducted and what was learned. For more details, the reader is referred to an article appearing in the November-December, 1977, issue of the Journal of Teacher Education (Doyle, 1977a) and to a chapter in the 1979 Yearbook of the National Society for the Study of Education (Doyle, 1979).

Method

The induction study consisted of an attempt to map, over a three year period, the way in which 58 student teachers learned to cope with the demands of the classroom environment. The 58 cases represented a variety of subject areas and a full range of pupil socioeconomic and ability levels. Records of observations consisted of descriptions of activities and sequences of events within activities (e.g., teacher goes over list of characteristics of narrative poetry listed on chalkboard; teacher-student interaction is limited primarily to north-west area of classroom in front of teacher; work involvement estimated at 30%; etc.). Between observations, the records were analyzed for the general pattern of events--the 'trajectory' of induction--and for recurring incidents that seemed to account for this pattern.

Although I do not consider myself an ethnographer, the method used in this study resembled in some respects the ethnographic and constructivist approaches described in the recent literature (see, for example, Geertz, 1973; Hymes, 1977; Lutz & Ramsey, 1974; Magoon, 1977; Overholt &

Stallings, 1976; Wilson, 1977). Parallels occurred in at least three areas. First, the emphasis was on long-term observations using narrative descriptions rather than pre-established categories. Second, an effort was made to assign meaning to events by reference to the intrinsic properties of classroom settings rather than to theories of learning or organizational behavior. The purpose was to build a descriptive theory of classrooms rather than map classroom observations on to existing conceptions derived from psychology or sociology. Finally, the analysis was conducted with a disinterested frame of mind (i.e., an emphasis on description rather than improvement) and an expectation of surprise. Special attention was given to anomalies--events that departed from pre-conceptions of how classrooms should be--as windows to the structure of the environment and the tacit understandings teachers have of classroom processes.

The analytical perspective for this study was based on an ecological framework developed from the works of Kounin (1970), Gump (1969), and Willems (1973). According to this view, behavior, including thought, is analyzed as a functional response to the demands of a specific bounded environment. The analysis of observational records was accompanied by fairly extensive reviews of research on human information processing and quantitative and qualitative studies of classroom behavior (Doyle, 1978c, 1978d).

Findings

With the methodology used in this study, it was not possible to assign precise numerical values to variables or to test specific hypotheses in a rigorous manner. It was possible, however, to map the natural rhythms of the induction process, trace the order and recurrence of events, and fashion grounded explanation to account for patterns of behavior in classroom environments. The major findings, therefore, tend to be in the form of a general interpretive model from which an integrated set of hypotheses can be generated.

At a general level, the induction study revealed that teaching in classrooms is a challenging task that requires specialized knowledge and skills tuned to the particular demands of the setting in which teachers work. The study also hinted at an even larger domain of cognitive operations and overt action sequences that must be mastered for teachers to manage classroom environments and implement activities. Much of this domain remains unexplored. Moreover, this specialized component of teacher competence has been only partially represented in descriptions of teaching methods and in summaries of the results of research on teaching effectiveness. The induction study appears to have opened up a rich and exciting arena for inquiry in teacher education.

What follows is an attempt to sketch in broad strokes what has been learned so far about the character of the classroom environment and the skills necessary to meet these demands.

Environmental Demands. Teachers are assigned to meet with groups of students for designated periods of time and to conduct activities that involve all students and have some educative justification. At a proximate level, the teacher's task engendered by this arrangement is to secure the cooperation of students in classroom activities (see Doyle, 1979). Complications in gaining cooperation arise from the fact that students vary in their abilities to accomplish academic tasks and in their inclinations to participate in classroom activities. These complications are intensified because classroom groups convene regularly for several months and are thus affected by periodic absences of individuals, the introduction of new members, and competition from other events in the school and the community.

These realities give rise to at least five distinctive and persistent features of the classroom environment. These features have been labeled: multidimensionality, simultaneity, immediacy, unpredictability, and history. The terms are designed to suggest that classrooms are crowded with people, activities, and interruptions; many events take place at the same time; and there is little time available for a teacher to reflect before acting or even to anticipate the direction of events. In addition, because classroom groups meet for an extended period, rules that evolve for the behavior of participants and decisions at one point have consequences for subsequent actions. It would also seem that these are indigenous features of classrooms: if teachers met students one at a time and at the students' initiative, the setting for teaching would contain few of these elements.

Teacher decision making and action. The induction study suggested that the complexity of demands in a particular classroom and, hence, the probability of securing cooperation, were influenced in part by two considerations: (1) the character of the activity being implemented; and (2) the actions of the teacher during implementation. Activities involving complex and interdependent arrangements of students (e.g., multiple groups working on cooperative projects) intensified multidimensionality, simultaneity, and unpredictability. Teacher actions that narrowed the teacher's view of the classroom or localized the teacher's contact with students (e.g., standing close to a small group of students or working intensively with one student) restricted the teacher's ability to monitor the group and respond to the immediacy of events (see Doyle, 1977b). Timing was an especially important dimension of teacher behavior. Delays in becoming aware of incidents or in intervening to stop potential disruptions, excessive slowing down of classroom activity, and inappropriate scheduling of attention to students were associated with low levels of student cooperation (see also Kounin, 1970).

It became very clear during the induction study that there was a strong cognitive component to the skills necessary to manage classroom activities. Successful managers were able to select activities that had a high probability of attracting cooperation of a particular group of students. In other words, they used planning to reduce complexity (see Yinger, 1977). There were also able to anticipate consequences and adjust the timing of activities to suit immediate circumstances by allocating conscious attention to key aspects of the environment. They were able, for instance, to notice early signs of potential problems or disruptions. Selecting appropriate activities and monitoring events were, in turn, dependent on an understanding of possibilities and consequences in classrooms. Successful management, in other words, was rooted in classroom knowledge.

Implications

The results of the induction study have more to do with how to think about teacher education than how to conduct research in this area. In exploring specific research proposals, therefore, it is useful to relate the study to some general issues in teacher education. Although the study focused on induction sequences, implications of the results would seem to radiate across the preservice and inservice continuum.

The Ends of Teaching

In most discussions, teaching is closely associated with learning. Thus, the actions of teachers are usually evaluated as appropriate or inappropriate attempts to maximize the achievement of individual students. This view has certainly circumscribed common perceptions of the content of teacher education by placing particular emphasis on learning psychology (i.e., how leaning takes place), subject matter knowledge (i.e., what is to be learned), and teaching methods (i.e., how to maximize leaning outcomes). Much of this knowledge is best seen as "schema" knowledge (Anderson, 1977), that is, knowledge that something is the case. The emphasis, in other words, is on propositional knowledge about concepts and their interrelationships within a semantic network. Moreover, the tasks embedded in most academic and teacher education courses require students to process information in a "schema" fashion, that is, to define the characteristics of various components of a knowledge system.

Research on teaching in classroom environments suggests a need to modify this picture of the ends of teaching and, accordingly, the content of teacher education. From an environmental perspective, the teacher's task in classrooms is to plan activities and secure the cooperation of students in these activities. To accomplish this classroom task, teachers need "script" knowledge (Schank & Abelson, 1977), that is, knowledge of procedures or how events occur in a particular setting. Indeed, one of the major challenges of learning to teach is to translate knowledge of subject matter (schema) into activities (scripts) that can be implemented in a particular classroom. Unless this translation can be accomplished, much of the knowledge gained in courses cannot be used.

At the present time, most of the script knowledge about teaching in classrooms--i.e., theories of cooperation--is known only tacitly by skilled practitioners. It is very difficult to communicate this knowledge to beginning teachers since few practitioners have, or even need, an analytical understanding of what they do in classrooms. There is, in other words, little need to talk about teaching and thus few teachers have a language for describing what they do. In the absence of declarative knowledge, preservice teachers are required to learn teaching scripts exclusively from direct experience with the demands of the classroom environments. Reliance on this method is often costly for beginning teachers, pupils, and teacher education.

The Ideology of Teacher Education

The approach being outlined here suggests a need to reassess the personalistic and individualistic ideologies that permeate the intellectual foundations of teacher education. In most discussions, the observed behavior of teachers is typically seen to result from personal competence or motivation. Teachers, it is often argued, teach the way they do because they want to. Such a view ignores the subtle interdependence between environment and behavior in classrooms. Patterns of teacher behavior are the cumulative results of a continuous process of adapting to the demands of a complex environment. To understand this behavior, it is necessary to understand the setting in which it occurs.

Teacher education students also are admonished to attend primarily to the individual pupil, despite the fact that teaching most often occurs in groups. This individualism is certainly reinforced by learning models derived from laboratory psychology and discipline techniques derived from clinical and counseling psychology. As a result, the classroom is often missing from discourse on teaching methods and discipline (see Doyle, 1978a). It is not surprising that teachers often find their preparation irrelevant to the tasks of teaching in classrooms.

In a related manner, it is often maintained that teacher education should be a path to innovation in schooling. Neophytes, uncontaminated by experience with shopworn methods that fail to match our vision of the ideal school experience, can presumably acquire readily the ability to teach in innovative ways. This emphasis on innovation through teacher education means that preservice teachers are often taught behaviors and methods that occur with low frequency in most classrooms. An environmental perspective on teaching calls attention to the possibility that low frequency methods may be very difficult to use in classrooms and that successful implementation of such methods may well require classroom skills that few beginning teachers have acquired. It is likely, therefore, that preservice training in innovative procedures will have little durability. Moreover, attempts to implement such methods may have disastrous consequences for beginning teachers and their pupils. A more reasonable approach would be to focus on helping beginning teachers master the classroom and then work toward extending teaching skills toward the use of more complex activity structures.

The Content and Strategies of Professional Training

Discussions of the core content of professional preparation usually focus on the need for training in specific skills or competencies. Research on teaching in classroom environments can enhance deliberation in this area in three ways. First, results of this research indicate a need to supplement the existing content of training with skills related specifically to managing environmental demands and using teaching methods in classrooms. Second, environmental research has underscored the strong cognitive component in teaching competence. Beginning teachers need to acquire classroom knowledge, that is, an understanding of possibilities and consequences in classrooms, if they are to cope successfully with the demands of the environment and be able to use teaching methods. Finally, naturalistic studies have emphasized the need to help beginning teachers learn to think about teaching in terms of activities rather than isolated bits of behavior such as feedback, questions, or lectures (Yinger, 1977). Such behaviors occur in classrooms as components of complex activity structures and not as independent variables.

There is little evidence that available preservice training methods provide adequate preparation for teaching in classrooms. Much of the work related to microteaching has focused on acquisition of teaching skills. In a series of carefully planned studies, Copeland (1975, 1978) found, however, that skills learned in microteaching were used only if conditions in the classroom were favorable, that is, when pupils were disposed to cooperate because of previous experience with the teacher behaviors in a particular setting. These studies, once again, call attention to the need to study classroom effects on teacher behavior. MacLeod and McIntyre (1977) have argued that microteaching has significant effects on cognition rather than only overt performance. This cognitive effect may well be the case, but there is little reason to expect that classroom knowledge can be gained from experience in a microteaching environment. In some cases, training experiences may even engender ways of thinking that are inappropriate for learning to teach in classrooms. The widely recommended practice of tutoring, although consistent with the individualistic ideology of teacher education, can shape a mode of thinking about teaching in ways that are incongruent with the demands of teaching in classrooms. The same can be said for many of the philosophical and psychological models of teaching that are taught as part of the course work in teacher preparation.

Inservice Interventions

Finally, research on teaching in classroom environments has implications for inservice education. Two examples are given to illustrate this point. First, feedback to teachers is often given in the form of discrete behaviors isolated from activity structures and with little attention to classroom demands. Although teachers are often able to conform to the explicit or implicit wishes of observers, there is reason to question the value and the long-term consequences of such feedback. It is also possible that many of the recommended changes in classroom behavior, recommendations that are often based on external models of adequate teaching, can disrupt the delicate balance among elements in the activity structures of a particular classroom. A teacher's location, for instance, may play a key role in maintaining cooperation in activities. Changing this location can interfere with teaching success. Second, efforts to change curriculum must be seen from the perspective of the classroom. At an operational level, a change in curriculum means a change in activities. Since many innovations are not designed on the basis of classroom knowledge, many of the activities associated with innovations may be difficult to use. Teacher resistance to change may often be realistic (Doyle & Ponder, 1977-78).

Areas of Needed Research

Several research questions have been raised in the preceding review of implications of research on teaching in classroom environments. Many of these questions can be organized into two main categories of needed inquiry: (1) research on classroom knowledge; and (2) research on ways of teaching classroom understandings to beginning teachers. In the following paragraphs, these areas are discussed briefly and suggestions are made about how this research might be conducted.

Research on Classroom Knowledge

Although a beginning has been made (Doyle, 1977a, 1979), substantial effort needs to be focused on explicating the script knowledge necessary to teach in classrooms. Research might be directed, for example, to describing the large number of important scripts that operate in establishing classroom structures at the beginning of the school year

(Evertson & Anderson, 1978; Anderson & Evertson, 1978). Specific attention might be given to the delayed-action script and its consequences, a phenomenon that was especially evident in the induction study described in this paper. Finally, naturalistic studies of teacher planning (Yinger, 1977) can provide insight into the script knowledge of experienced teachers and how they use this knowledge in selecting classroom activities.

A research problem of this nature lends itself to process studies of the classroom environment. Given our present state of knowledge about classroom scripts, initial studies will probably require long-term naturalistic observations using narrative descriptions. Such studies must be interpreted with a view to the natural rhythms of the school year. As a broad understanding of the classroom emerges, studies can become progressively more focused. It will be eventually possible, in other words, to ask very specific questions about a particular script and devise systematic observational procedures and carefully controlled studies to refine knowledge about the way the script operates in classrooms. (For a methodological perspective that combines long-term naturalistic observation with controlled laboratory studies, see Tinbergen, 1972.)

It is important to emphasize that empirical studies of classroom knowledge must be accompanied by rigorous conceptual analysis and theory construction. Integrated conceptual frameworks do not emerge automatically from piles of data. Without an understanding based on conceptual analysis, the information gained from research on teaching in classroom environments will be of little use in asking research questions, planning teacher education experiences, or teaching in classrooms.

Research on Teaching Classroom Understandings

As declarative knowledge about classrooms is increased, it is necessary to devise ways of translating this knowledge into content for teacher education. The pressure for legitimacy in colleges and universities requires that knowledge in teacher education exist in conventional scholarly modes such as books and articles. Since most classroom knowledge is now acquired by accident during student teaching, this codified version should be of some help. There is a danger, however, that classroom knowledge gained from textbooks will become solely structural rather than procedural, that is, knowledge *that* rather than knowledge *how*. Techniques need to be developed, therefore, for teaching an understanding of classrooms, that is, a generative system which beginning teachers can use to interpret unencountered instances of classroom scripts. There is evidence to suggest that teaching for understanding is not easily accomplished in schools (Doyle, 1978b). This area will require careful and imaginative planning.

Products in this area could take the form of visual displays of various classroom scripts to illustrate verbal descriptions and conceptual frameworks. Procedures could also be developed to have students learn to identify scripts in recorded and live situations. Wagner (1973) has already demonstrated the effectiveness of discrimination training to help preservice teachers recognize instances of a teaching skill. It is also possible to devise laboratory exercises designed not to teach specific skills but to have students experience the demands of the classroom environment. Exercises involving divided attention, if made relevant to classroom phenomena, might be useful in helping teachers learn the cognitive operations necessary for overlap (Schumm, 1971). In my own work, I have, for the past several years, required preservice teachers to teach a brief lesson during which their behavior is restricted to questions only. Although a formal evaluation of the effects of this procedure has not been conducted, it would seem to give teachers an experience with the multiplicity, simultaneity, immediacy, and unpredictability of the classroom environment.

In the final analysis, classroom knowledge can only be gained by experience as a teacher in the classroom environment. Research is needed, therefore, on the complex processes of learning to be a teacher in the classroom. My own experience in studying induction suggests that the feedback beginning teachers receive is very important in helping them acquire classroom knowledge. Such feedback needs to be keyed to the demands of the classroom environment. That is, feedback must be based on classroom knowledge. In addition, there is a clear possibility of developmental processes involved in learning to be a teacher. Teaching is an adult role in society and the transition to adult status is often too abrupt for many undergraduates. Such candidates are especially vulnerable to the pressures pupils create for teachers and have a difficult time learning the classroom environment.

Conclusion

Some may argue that the emphasis on classrooms in this essay is reactionary and misguided. I cannot agree. Classrooms have been with us for many decades and persist as a form of organizing instruction despite regular condemnations and a flood of alternative schemes. A more fruitful approach would be to work toward understanding classrooms so they can be used humanely and effectively.

References

Anderson, L.J., & Evertson, C.M. Classroom organization at the beginning of school: Two case studies (Rpt. No. 6003). Austin, Texas: Research and Development Center for Teacher Education, University of Texas, 1978.

Anderson, R.C. The notion of schemata and the educational enterprise: General discussion of the conference. In R.C. Anderson, R.J. Spiro, & W.E. Montague (Eds.), Schooling and the acquisition of knowledge. Hillsdale, N.J.: Lawrence Erlbaum Associates, 1977.

Copeland, W.D. The relationship between microteaching and student teacher classroom performance. Journal of Educational Research, 1975, 68, 289-293.

Copeland, W.D. Processes mediating the relationship between cooperating-teacher behavior and student-teacher classroom performance. Journal of Educational Psychology, 1978, 70, 95-100.

Doyle, W. Learning the classroom environment: An ecological analysis. Journal of Teacher Education, 1977, 28(6), 51-55. (a)

Doyle, W. The uses of nonverbal behaviors: Toward an ecological model of classrooms. Merrill-Palmer Quarterly, 1977, 23, 179-192. (b)

Doyle, W. Are students behaving worse than they used to behave? Journal of Research and Development in Education, 1978, 11(4), 3-16. (a)

Doyle, W. How do teaching effects occur? Austin, Texas: Research and Development Center for Teacher Education, University of Texas, 1978. (b)

Doyle, W. Paradigms for research on teacher effectiveness. In L.W. Shulman (Ed.), Review of Research in Education 5. Itasca, Illinois: Peacock, 1978. (c)

Doyle, W. Student mediating responses in teaching effectiveness: An interim report. Paper presented at the meeting of the American Educational Research Association, Toronto, March, 1978. (d)

Doyle, W. Making managerial decisions in classrooms. In D.L. Duke (Ed.), Classroom management. Seventy-eighth Yearbook of the National Society for the Study of Education, Part 2. Chicago: University of Chicago Press, 1979.

Doyle, W., & Ponder, G.A. The practicality ethic in teacher decision-making. Interchange, 1977-78, 8(3), 1-12.

Evertson, C.M., & Anderson, L.M. Interim progress report: The classroom organization study (Rpt. No. 6002). Austin, Texas: Research and Development Center for Teacher Education, University of Texas, 1978.

Geertz, C. *The interpretation of cultures*. New York: Basic Books, 1973.

Gump, P. V. Intra-setting analysis: The third grade classroom as a special but instructive case. In E. P. Willems & H. L. Raush (Eds.), *Naturalistic viewpoints in psychological research*. New York: Holt, Rinehart & Winston, 1969.

Gumperz, J. J., & Hymes, D. (Eds.). *Directions in sociolinguistics: The ethnography of communication*. New York: Holt, Rinehart & Winston, 1972.

Hymes, D. H. Qualitative/quantitative research methodologies in education: A linguistic perspective. *Anthropology and Education Quarterly*, 1977, *8*, 165-176.

Kounin, J. S. *Discipline and group management in classrooms*. New York: Holt, Rinehart & Winston, 1970.

Lutz, F. W., & Ramsey, M. A. The use of anthropological field methods in education. *Educational Researcher*, 1974, *3*(10), 5-9.

MacLeod, G., & McIntyre, D. Towards a model for microteaching. *British Journal of Teacher Education*, 1977, *3*, 111-120.

Magoon, A. J. Constructive approaches in educational research. *Review of Educational Research*, 1977, *47*, 651-693.

Overholt, G. E., & Stallings, W. M. Ethnographic and experimental hypotheses in educational research. *Educational Researcher*, 1976, *5*(8), 12-14.

Schank, R. C., & Abelson, R. P. *Scripts, plans, goals, and understanding: An inquiry into human knowledge structures*. Hillsdale, N.J.: Lawrence Erlbaum Associates, 1977.

Schumm, R. W. *Performance on multiple-attention measures as a predictor of the classroom management proficiency displayed by student teachers*. Unpublished doctoral dissertation, Indiana University, 1971.

Tinbergen, N. Functional ethology and the human sciences. *Proceedings of the Royal Society of London, Series B*, 1972, *182*, 385-410.

Wagner, A. C. Changing teacher behavior: A comparison of microteaching and cognitive discrimination training. *Journal of Educational Psychology*, 1973, *64*, 299-305.

Wax, M.L., & Wax, R.H. Great tradition, little tradition, and formal education. In M.L. Wax, S. Diamond, & F.O. Gearing (Eds.), *Anthropological perspectives on education*. New York: Basic Books, 1971.

Willems, E.P. Behavioral ecology and experimental analysis: Courtship is not enough. In J.R. Nesselroade & H.W. Reese (Eds.), *Life-span developmental psychology: Methodological issues*. New York: Academic Press, 1973.

Wilson, S. The use of ethnographic techniques in educational research. *Review of Educational Research*, 1977. *47*, 245-266.

Yinger, R.J. *A study of teacher planning: Description and theory development using ethnographic and information processing methods*. Unpublished doctoral dissertation, Michigan State University, 1977.

EATING HUMBLE PIE: NOTES ON METHODOLOGY IN TEACHER EDUCATION RESEARCH

H. D. Schalock
Teaching Research Division
Oregon State System of Higher Education

Research on teacher education should be a diverse and many-faceted enterprise. It should chart the characteristics of those who enter teacher preparation programs, and those who survive to enter teaching; it should study the relationship between characteristics at point of entry to a program, or point of exit, and subsequent success of practice; it should focus on the interaction of program entry characteristics, the nature of preparation programs, and subsequent success in practice; it should be searching much more than it has for the relationship between knowledge or skill mastery and subsequent success in practice; it should be searching for early indicators of competence as a teacher, and studying the extent to which these are effective as predictors of success in first, third or fifth year teaching; it should be investigating the relationship between the nature of field placements in preparation programs, subsequent job placements, and subsequent performance in those job placements. It should even be investigating the matter of costs and benefits associated with alternative preparation programs.

A basic assumption of which the present paper is based is that if research in teacher education is to be this diverse and many-faceted, the methodology needed for its support must be equally diverse and many-faceted.

For purposes of the conference, I want to argue the position that research on teacher education has not been this far-ranging, and that at present, we do not have the methodology that enables it to be so. After completing a review of the research literature pertaining to teacher selection (Schalock, 1979), I am of the opinion that we know very little about any of the items mentioned above, and what is more, we do not even have good hypotheses about them. We clearly do not have "up and running" research designs or measurement systems needed to get good information about them. A case in point is the essential absence of tested methodology that can be used by teacher education institutions in responding to the NCATE requirement for evaluative followup studies of graduates of teacher preparation programs.

I have come to the opinion that we have a very limited knowledge base about teacher education per se, and that we are essentially without tradition when it comes to teacher education research. I read that Peck and Tucker (1973), and those who have reviewed the literature before them [for example, Cyphert & Spaigts (1964); Denemark & MacDonald (1967)], hold a similar view.

This is not to say that teacher education is without a research base. In fact, it draws upon a number of research bases, but these historically have come from the disciplines of biology, psychology, and anthropology. Within recent years, educational researchers have begun to establish a knowledge base that pertains directly to teaching, but as yet very little information that informs decisions by teacher educators about teacher education has come from research on teacher education. It is my hope that this conference will lead to steps that in time will change this indefensible state of affairs.

In order for such steps to occur, agreement must be reached on the substantive issues in teacher education that need to be addressed through research. A large share of the conference is devoted to this purpose. Once a focus of inquiry has been established, however, questions of methodology comes into play. (In practice, of course, the reverse is often true; that is, the availability of a methodology often shapes the research questions asked.) The intent of my remarks is to sensitize conference participants to major issues of methodology that need to be addressed in planning research in the area of teacher education and to provide some "conceptual handles" for dealing with them.

My remarks are based on the assumption that the methodological issues facing researchers in teacher education are infinitely more complex than was once imagined, and that at present we do not have either the concepts or the methods needed to implement a full-scale program of research in all areas mentioned in the opening paragraph. If this assumption is true, research on substantive issues will need to be paralleled by research on methodology.

Distinguishing Between Research on Teacher Education and Research on Teacher Effectiveness

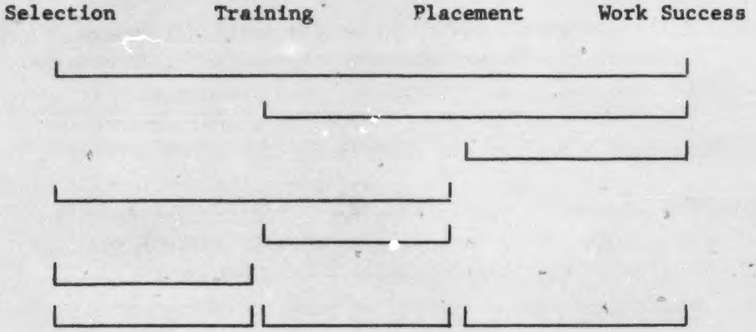
Just as research on learning is not research on teaching, research on teaching is not research on teacher education. Research on teaching contributes importantly to the substance or content of teacher education, but it does not deal with the prediction of teacher effectiveness (teacher selection); it does not deal with program effectiveness; it does not deal with the interaction of program characteristics and the characteristics of students preparing to become teachers; and it does not deal with the pragmatic and increasingly political matter of costs and benefits associated with alternative preparation programs.

To some, research on teacher education may not be as glamorous or exciting as research on teaching and learning, but it is research that is no less important. Enormous sums of public and private funds are directed to the education of teachers each year, and reminiscent of the circumstance the teaching profession faced a decade or so ago (USOE, 1970), teacher educators at this point would be hard pressed to build a convincing case that teacher education programs "make a difference." More importantly, teacher education programs are the filters through which persons enter the schools as teachers, and the social obligation that accompanies recommendation for certification demands that those who are recommending be sure of their recommendation. I doubt that many teacher educators now believe they are able to accurately predict at point of exit from a teacher preparation program who is going to be effective as a teacher and who is not--let alone why that will be so.

Research on teaching is important to teacher education, but research on teacher education is important to the public trust. It also is important to children and youth, for what we know about the preparation and selection of teachers in the long run affects the quality of education that students receive.

Alternative Foci for Teacher Education Research

In a recent volume of the National Society for the Study of Education, Richard Turner (1975) proposed a framework for organizing research on teacher education that appears to have considerable utility. The framework is organized around stages in the professional life of a teacher and calls for research to be done on the transition between stages. The four stages he deals with are selection, training, placement, and job performance, with work success in job performance being the important criterion. Turner used the following schematic to depict the foci for research that are highlighted by the framework. The brackets extended across the bottom of the schematic have been inserted to depict the moderating or interaction effects between the first three sets of variables and work success.



Turner's framework has to be viewed in light of his underlying assumption that "The aim of research in teacher education is to optimize that portion of teacher work success attributable to teacher preparation" (p. 87). In general, I concur with this assumption, though I would add the political reality of having to pursue this aim within the framework of cost-benefit considerations.

Turner does not argue that all of the relationships identified in the schematic are equally important as foci for research, though all are possible and all are important. He also recognizes that one of the greatest handicaps to strong programs of research in teacher education is the problem of defensible criteria of work success, but this is an issue that has had to be faced in research on teacher effectiveness so it is not unique. Turner was able to find studies (done largely by doctoral students) that pertained to each of the research foci suggested by his framework, but in keeping with the view being advanced here he concluded his review by saying:

> In spite of recent improvements in research in the field, the amount of dependable information available compared to the amount needed to formulate

> more effective policies and practices of teacher education is miniscule. (p. 107)

So far as I can determine, nothing has changed in the four years since the publication of Turner's chapter to alter this conclusion, including the completion of the Beginning Teacher Evaluation Study (Fisher, Filbey, Marliave, Cahen, Dishaw, Moore & Berliner, 1978) that was designed expressly to inform policies and practices in teacher education.

The Interaction Between Focus and Method

It is stating the obvious to say that the focus of a research study determines to a large extent the nature of the design and methodology to be employed in carrying out the study, but when preparing a paper on methodology, the strength of this connection needs to be fully understood. Using Turner's framework as a point of reference, research focusing on the relationship between characteristics of students entering a teacher preparation program and their subsequent effectiveness as teachers will take a very different form and will involve different sets of variables than will research focusing on the relationship between training and job placement. The strength of the connection between focus and method is even more notable when contrasting research on the costs and benefits associated with alternative preparation programs with the foci suggested in Turner's scheme.

The not-so-obvious point that needs to be made about the connectedness between focus and method is the point made in the introduction to the paper: we do not now have well established methodology to support much of the research that needs to be done in teacher education. This is especially the case with respect to measurement systems and the conceptual frameworks on which they are based. Obviously, we are not altogether without method, so research of one form or another probably can take place around any of the foci that have been mentioned. The point that needs to be understood, however, is that from a methodological point of view, much of this research will be relatively primitive, and as a consequence we should not expect too much by way of results from it too soon. For the immediate future, research in teacher education probably should be as much concerned with the development of good constructs and methodology as it is with establishing empirically verified relationships (for an extension of this argument, see Schalock, 1975, p. 18-22).

The Effect of Context and Time

One of the most important contributions of research on teacher effectiveness to research on teacher education is the consistent finding that the effectiveness of a teacher is always time-dependent and context-specific. Learning on the part of students is clearly related to time allocated to learning (Bloom, 1976; Block & Burns, 1976; Rosenshine & Berliner, 1978; Fisher, et al., 1978) and the behavior of teachers that facilitate learning clearly varies from grade level to grade level and from subject to subject within grade level (Brophy & Evertson, 1976; Medley, 1977; Fisher, et al., 1978). Having these data as a base on which to build teacher education research, especially teacher education research involving criteria of work succecss, doesn't make such research easier, but it does protect against assumptions about the nature of teaching effectiveness that are too simplistic and, thus, against the use of methods or designs that are inappropriate to research involving measures of teacher effectiveness.

Context and time enter research on teacher education in a number of other important ways. Both need to be considered, for example, in investigating the relationship between selection variables and training effects, or any research involving placement effects. Time also needs to enter the picture in research on program effectiveness, or in the study of costs and benefits associated with alternative program designs. It may well be, for example, that program effects are short-lived; that is, they are reflected in the performance of first year teachers but not third or fifth year teachers. On the other hand, it may be that program effects are cumulative; that is, they not only are reflected in the performance of first year teachers but project a pattern of excellence or mediocrity that becomes more pronounced with time.

These are important considerations and call for dimensions of context and time to be treated as critical variables in teacher education research. A recent paper by Doyle (1978) and work underway at the Far West Laboratory in the development of instructional theory from an "ecological" point of view (Tikunoff & Ward, 1978) point the way toward understanding why dimensions of context and time need to be incorporated into research on teacher education, as well as how this might be done.

The Dominance of Interaction Effects and the Likelihood of Curvilinear Relationships

In designing research studies in teacher education, and especially in analyzing data coming from these studies, allowance must be made for strong interaction effects and the likelihood of curvilinear relationships among the variables studied. Selection variables interact with training variables; both probably interact with placement variables; and all three interact with measures of work success. Moreover, different measures taken at each of these focal points are likely to have patterns of relationship that are inconsistent and anything but linear. For example, while a curvilinear relationship appears to exist between measures of academic ability and measures of teaching effectiveness, the curve looks somewhat different for elementary and secondary teachers. Interaction effects can also be expected between the socioeconomic background of teachers (or teacher preference as to grade level at which to teach), job placement characteristics and success in teaching. Still another interaction that is likely to confound research on teacher education that involves measures of work success in the interaction that occurs between various measures of work success, for example, a supervisor's judgment of adequacy as to job performance, measures of student time on-task, and measures of learning gain. There is no assurance of any relationship between the first and the latter two measures, and when data are taken on individual students in classrooms the relationship between the latter two measures tends to be weak (Fisher, et al., 1978).

Again, while these realities do not prevent research in teacher education from progressing, they do not make it easier. As in the case of the effect of context and time, they do protect teacher education researchers from progressing on assumptions that are too simple and from using designs and methodology that do not accommodate the complexities with which teacher education research must deal. Turner (1975) recognized the impact of these realities when he spoke to the role of "moderator variables" in teacher education research generally.

> In all probability, teacher education is a field in which many variables are moderators. Because unidentified moderators twist, weaken, or obliterate linear relationships between variables, and since the dominant research methods anticipate linear relationships, research progress in the field might be anticipated to proceed slowly until the major moderating variables are identified. (p. 89)

Implications for Methodology

Recognizing that methodological considerations are tied always to the focus of a particular research study, it is hard to generalize about methodology, but the previous comments help put in perspective a growing uneasiness on the part of those who are doing research on teaching, or the effects of schooling generally, with the research paradigms that have been in use for the past several decades (Shulman & Lanier, 1977; Fisher & Berliner, 1977; Berliner, 1978). There is a growing awareness of the limitations inherent in large sample, cross-sectional studies that aggregate effects to class or school means. There also is a growing awareness of the limitations of looking for treatment effects of single variables within the school setting, even when these "variables" are conceived as broadly as teacher or curriculum effects. There also is growing awareness of the limitations inherent in looking at single outcome or dependent measures, especially when the focus of a research study is on something as complex as the consequences of classroom instruction or schooling on children's attitudes and achievement.

Finally, there is a growing awareness that looking only at teacher and student behavior in studies of teaching and teacher education is not enough. Attention also needs to be focused on the intentions of teachers and students (Fenstermacher, 1978), the decision making of teachers and students (Shulman & Elstein, 1975; Shavelson, 1976) and the context in which behavior, intentions and decisions occur (Dreeban, 1978).

Collectively, these factors are pointing to research designs and methodologies in future studies of teaching and school effects, and I presume future studies of teacher education, that are very different from those of the past. Projections of any kind are filled with risk, and stand to mislead as well as inform, but I foresee research in teacher education needing to reflect the following characteristics if it is to advance our understanding appreciably.

Design. Increasing use of longitudinal designs, coupled with a "case history" or "extreme case" or "clinical" or "ethnographic" orientation to data collection and analysis. Single subject designs (Kratochwill, 1978) may come into play, but if they do I would expect them to be supplemented by design and analysis considerations that strive towards generalizability of findings. Since research in teacher education at this point in time needs to be as much concerned with construct development and delineation as it is the verification of empirical relationships, I would expect descriptive or hypothesis generating designs to predominate over hypothesis testing designs in the immediate future. Experimental designs will still be needed and employed, but only after constructs are reasonably well delineated and hypotheses reasonably well formulated. Whatever purpose a design is to serve, it will need to allow for the influence of context and time, and the interaction of variables that both imply.

Measurement. Multiple measures of any construct under investigation will be the order of the day, but particularly so with constructs serving as dependent variables. This is in keeping with the Campbell and Fiske plea nearly twenty years ago (1959) for the "triangulation" of measures of constructs that are not yet well defined. Table 1 illustrates variables that are likely to figure most prominently in research on teacher education.

Analysis. Strategies of data analysis are more difficult to project, for they depend heavily on design decisions. To the extent that studies employ large sample, cross-sectional designs, analyses are likely to take the form of those employed in the Beginning Teacher Evaluation Study or in the experimental study by Anderson, Evertson and Brophy (1978) of effective teaching in first grade reading groups. Generally speaking, these researchers

TABLE 1

Variables Being Considered by Oregon Teacher Preparation Institutions as Essential in Research on Teacher Selection and Teacher Effectiveness

---

Dimensions of Teacher Effectiveness to be Assessed

- The ability to perform the functions required of the job held
- Leadership responsibilities assumed in the school and district
- Students' perception of a teacher's classroom as a context in which to learn
- The civility of a teacher's classroom as a context in which to learn
- The engagement of students in learning activities
- Student attainment of academic outcomes
- Student attainment of other outcomes judged to be important by a community
- Student attainment of independence as a learner

Setting Characteristics Known or Assumed to Relate to the Effectiveness of a Teacher

- The content and organization of curriculum
- The instructional model used and instructional materials available
- The characteristics of students being taught
- The physical facilities within which instruction occurs
- Support services available to a teacher
- The characteristics of the neighborhood/community served by the school
- The teachers' perception of the school and community as a context in which to teach

Personal Characteristics Known or Assumed to Relate to the Effectiveness of a Teacher

- The ability to communicate in writing
- The ability to communicate orally
- The ability to relate interpersonally
- Knowledge of content to be taught
- Knowledge of teahing principles, methods, and skills
- Knowledge of human development and group dynamics
- General academic ability
- Adaptability
- Predicted success as a teacher at the end of student teaching
- Preference of grade level at which to teach

Background Characteristics Known or Assumed to Interact with Other Factors Influencing Teacher Effectiveness

- History of contact with children
- History of social involvement and the assumption of leadership responsibilities
- The grade level and nature of the context in which student teaching occurred
- The nature of a teacher's own schooling experience, including the size of the school and the nature of the community it served

---

employed linear regression models, with entering differences in learners adjusted through co-variance procedures, coupled with tests for the curvilinearity of relationships found. If longitudinal designs are employed, even more complex analyses apparently will have to be used (Borich, 1972), but these are so far beyond my level of understanding that I can only report of them.

Perhaps the greatest change that is likely to come in the analysis of data is in the use of what has come to be called exploratory data analysis. According to Berliner (1978) and others have shown that:

> . . . it is perfectly appropriate to work with sets of data throwing out some cases, keeping others, and doing things that the classical statistician never dreamed possible. Data analysis can be exploratory, not confirmatory, and the analyst need not have pre-conceived notions about the data structures. In this kind of exploratory analysis you are urged to massage complex data such that new insights about the phenomena emerge. (p. 21)

This approach to statistical manipulation would appear to be very much in keeping with the exploratory, descriptive, "hypothesis generating" approach referred to above, and would appear to make eminently good sense in light of the size and complexity of the data bases that emerge as a consequence of such an approach to research in education. Case studies, clinical reports, single subject research, and ethnographic research have reasonably well established rules for reporting data, though by-and-large these are not as restrictive as the rules governing the reporting of data derived through inferential statistics.

Signals of a Paradigm Shift

It is still unclear whether developments of the kind that have been described signal a genuine shift in the paradigm governing research in education (Kuhn, 1970), or whether they represent simply a maturing of awareness as to the complexity of the field with which we are dealing or a growing sense of independence from the designs and methodologies of the parent disciplines that have held sway for so long. They may also be simply a response to the frustration of not being able to establish powerful, conclusive and generalizable findings on anything that has to do with teaching (and, I would suspect, the preparation of teachers). Doyle's (1978) recent paper on alternative paradigms for research on teaching effectiveness, however, along with the "teaching as decision making" thrust of the new Institute for Research on Teaching (Shulman & Lanier, 1977) and Berliner's (1978) call for clinical studies of classroom teaching and learning would suggest that a genuine shift in paradigm may be forthcoming.

Whatever it is that is accounting for this shift in the way people are thinking about research in education, it is likely that we will not continue for long the kind of studies that were the hallmark of the last decade. Just as "process-product" studies of teacher effectiveness emerged in response to a growing awareness of the limits of educational research carried out in the 1940's and 1950's, a new way of conducting educational research appears to be on the horizon. As we debate an agenda for research in teacher education, we need to be aware of this fundamental shift in thinking about methodology, respond to the needs it creates, and take advantage of it to the extent possible.

Conclusion

Teacher education research has not had a strong history, and during the past decade it has been essentially overshadowed by research on teacher effectiveness. While much can and should be taken from the teacher effectiveness research when planning research on teacher education, both in substance and methodology, teacher education research has its own unique set of research questions and methodological dilemmas. It has been argued that these are as important to the public good as are questions revolving around teaching effectiveness and school learning, for they pertain directly to who enters the teaching profession and the likelihood of their effectiveness once there.

In planning an agenda for teacher education research, close attention needs to be paid to what appears to be a fundamental shift in how people are beginning to think about educational research, and how it should be conducted. Some of these emerging views have been described in the previous pages. In addition to what has been said, however, I would argue that for teacher education research to make an appreciable difference in the manner in which teachers are selected and prepared in institutions across the nation, multiple sites must be engaged in both hypothesis formulating and hypothesis testing studies. I would also argue that in order to make a difference, these studies will need to be longitudinal in nature, reflect a high degree of external validity (Schulman, 1970), and be subject to numerous replications. As Gage (1977) has pointed out "Far more than the statistical significance of any single study, confirmation by independent studies is relied upon by behavioral scientists before they begin to take a finding seriously . . . what we want in most fields of research before we become truly impressed, is replication" (p. 1-2). For this to be feasible, ways must be found to carry out research on teacher education at low cost.

I would argue, as I have previously (Schalock, 1975; Schalock, Kersh & Garrison, 1976), that the only context that has a chance of meeting such requirements is that of ongoing teacher preparation programs. A number of conditions must be met for teacher preparation programs to become viable, low-cost contexts for research (for one listing of such characteristics, see Schalock, Kersh & Garrison, p. 68-71), but these are not impossible conditions to meet. The program of research at Stanford University is well known in this regard, but more importantly emerging programs of research at Houston, Toledo, West Georgia, and Oregon College of Education attest to the fact that institutions that resemble most other teacher preparation institutions in the nation can become contexts for research.

As the conference progresses, I would urge participants to spend time with this proposition, and see whether our teacher preparation programs might not in fact become the counterpart of the laboratories that our colleagues in the parent disciplines so long have had at their disposal, and through which they have contributed so much.

References

Anderson, L. N., Everston, C. M., & Brophy, J. E. An experimental study of effective teaching in first-grade reading groups. Austin: Research and Development Center for Teacher Education, The University of Texas, 1978.

Berliner, D. C. Clinical studies of classrooms in teaching and learning. Paper presented at the annual meeting of the American Educational Research Association, Toronto, Canada, March 1978.

Block, J. H., & Burns, R. B. Mastery learning. In L. S. Shulman (Ed.), *Review of research in education, 4*. Itaska, Ill.: F. E. Peacock, Publishers, 1976.

Bloom, B. S. *Human characteristics and school learning*. New York: McGraw-Hill, 1976.

Borich, G. D. Linear and curvilinear models for aptitude-treatment interactions. Paper presented at the annual meeting of the American Psychological Association, Honolulu, 1972.

Brophy, J., & Evertson, C. M. *Learning from teaching: A developmental perspective*. Boston: Allyn & Bacon, 1976.

Campbell, D. T., & Fiske, W. Convergent and discriminate validations by the multitrait-multimethod matrix. *Psychological Bulletin*, 1959, *56*, 81-105.

Cyphert, F. R., & Spaights, E. *An analysis and projection of research in teacher education*. *USOE Cooperative Research Project #F-015*. Columbus, Ohio: The Ohio State University Research Foundation, 1964.

Denemark, G. W., & MacDonald, J. B. Preservice and inservice education of teachers. *Review of Educational Research*, 1967, *37*, 233-247.

Doyle, W. Paradigms for research on teacher effectiveness. In L. S. Shulman (Ed.), *Review of research in education, 8*. Itaska, Ill.: *Peacock, 1978*.

Dreeben, R. The collective character of instruction. Invited address presented at the annual meeting of the American Educational Research Association, Toronto, Canada, March 1978.

Fenstermacher, G. A philosophical consideration of research on teacher effectiveness. In L. S. Shulman (Ed.), *Review of research in education, 8*. Itaska, Ill.: *Peacock, 1978*.

Fisher, C. W., & Berliner, D. C. Quasi-clinical inquiry in research on classroom teaching and learning, Technical Report VI-2, Beginning Teacher Evaluation Study. San Francisco: Far West Laboratory for Educational Research and Development, 1977.

Fisher, C. W., Filby, N. N., Marliave, R., Cahen, L. S., Dishaw, M., Moore, J. E., & Berliner, D. C. Final report of the beginning teacher evaluation study technical report V-1. San Francisco: Far West Laboratory for Educational Research and Development, 1978.

Gage, N. L. Four cheers for research on teaching. Review draft, 1977.

Kratochwill, T. *Single subject research*. New York: Academic Press, *1978*.

Kuhn, T. S. *The structure of scientific revolutions* (2nd *ed., enlarged). Chicago: University of Chicago Press*, 1970.

Medley, D. M. *Teacher competence and teacher effectiveness: A review of process-product research*. *Washington, D.C.: American Association of Colleges for Teacher Education*, 1977. (Monograph)

Peck, R. F., & Tucker, J. A. Research on teacher education. In R. W. M. Travers (Ed.), Second handbook of research on teaching. Chicago: Rand McNally, 1973.

Rosenshine, B., & Berliner, D. C. Academic engaged time. British Journal of Teacher Education, 1978, 4, 3-16.

Schalock, H. D. Closing the knowledge gap: CBTE programs as a focus of and context for research in education. A position paper of the Consortium of CBE Centers. Syracuse, N.Y.: Multi-State Consortium for Performance-Based Teacher Education, Syracuse University, 1975.

Schalock, H. D. Research on teacher selection. In D. C. Berliner (Ed.), Review of research in education, 9. In preparation.

Schalock, H. D., Kersh, B. Y., & Garrison, J. H. From commitment to practice: The OCE elementary teacher education program. Washington, D.C.: American Association for Colleges of Teacher Education, 1976.

Shavelson, R. J. Teacher's decision making. In N. L. Gage (Ed.), The psychology of teaching methods. Chicago: National Society for the Study of Education, 1976.

Shulman, L. S. Reconstruction in educational research. Review of Educational Research, 1970, 40, 371-396.

Shulman, L. S., & Elstein, A. S. Studies in problem solving, judgement, and decision making: Implications for educational research. In F. N. Kerlinger (Ed.), Review of research in education, 3. Itaska, Ill.: Peacock, 1975.

Shulman, L. S., & Lanier, J. E. The institute for research on teaching: An overview. Journal of Teacher Education, 1977, 28, 44-49.

Tikunoff, W. J., & Ward, B. A. Ecological theory of teaching: Proceedings of the seminar of scholars. San Francisco: Far West Laboratory for Educational Research and Development, 1978.

Turner, R. L. An overview of research in teacher education. In K. Ryan (Ed.), Teacher education. Chicago: National Society for the Study of Education, 1975.

U. S. Office of Education. Do teachers make a difference? A report on recent research on pupil achievement. Washington, D.C.: Bureau of Educational Personnel Development, Office of Education, 1970.

IMPROVING TEACHER EDUCATION
PROGRAM EVALUATION

James M. Cooper
University of Houston

Introduction

On April 26-28, 1978, a colloquium was convened in Austin, Texas, by the Research and Development Center for Teacher Education, under the sponsorship of the National Institute of Education, concerned with teacher education program followup studies. The colloquium brought together a group of educators who have been conducting evaluations of the teacher education programs at their own institutions. Participants from eight different institutions were present at the meeting (Ohio State University, Oregon College of Education, Tennessee Technological University, University of Houston, Weber State University, Western Kentucky University, and the University of Texas at Austin). In looking at the program evaluation and followup studies described at the conference and in the research literature, it becomes apparent that each institution has approached its evaluation efforts quite differently, even though there are a number of similarities. The purpose of this paper is to report briefly on the state of the scene in teacher education program evaluation, including followup studies, as exemplified by the efforts of these eight institutions, and to outline conceptual and research steps that are needed to improve the evaluation of teacher education programs.

Summary of Institutional Efforts

This section of the paper will summarize the efforts of the eight participating institutions attending the Austin Colloquium ~~to conduct~~ teacher education program evaluation, including the followup studies. Reasons for conducting the studies, types of data gathered, and methodologies used will be described.

Purposes for Conducting Teacher Education Program Evaluation

The major reason for conducting teacher education program evaluation studies is to collect, analyze, and disseminate information that is useful for decision-making purposes. Most of the evaluation reports from the eight institutions expressed the desire to use the information gathered to improve their teacher education programs. Data that are useful for internal program decision making are not necessarily useful for research purposes; for example, they may have been gathered without much concern for issues such as establishing validity and reliability estimates for instruments used to gather data. This is not universally true, however, since some of the evaluation efforts (e.g., Western Kentucky University, Tennessee Technological University, and The University of Texas R&D Center) took great care to use instruments whose estimates of validity and reliability were known.

Another reason mentioned for conducting teacher education program evaluation efforts was to meet National Council for the Accreditation of Teacher Education (NCATE) standards. I suspect that this reason is the major one for many institutions whose evaluation efforts seem to be limited to those years preceding a NCATE visit. The eight institutions represented at the colloquium, however, were not simply meeting the "letter of the law." Their longitudinal efforts reflect a genuium concern for program improvement.

Types of Data Collected

The types of data collected by the eight institutions can be grouped into at least six different categories: (1) teacher characteristics and demographic data; (2) teacher effectiveness; (3) program effectiveness; (4) program characteristics; (5) contextual variables; and (6) pupil outcomes.

Teacher characteristics and demographic data. Most of the institutions collect data on teacher trainee characteristics and attitudes. Instruments such as the MTAI, National Teacher Exams, Career Base Line Data Questionnaire, California F-Scale, Rokeach Dogmatism Scale, Teacher Concerns Checklist, Adjective Self-Description, Bown Self-Report Inventory, and One-Word Sentence Completion are administered at various phases of the teacher education programs. Often demographic data such as age, sex, marital status, academic performance, and ethnicity are collected. Individual teachers' specific learning needs have been assessed with the Profile of Learning Priorities.

Teacher effectiveness. Data on program graduates' effectiveness as teachers are collected from principals, supervisors, teaching peers, pupils, self assessments and observers. Questionnaires, rating scales, personal interviews, and observation instruments are the principle means of collecting these data. Some sample instruments include the Ryans Classroom Observation Record, Tuckman Teacher Feedback Form, Fuller Affective Interaction Record, Student Evaluation of Teaching, Principal's Questionnaire, Teacher Evaluation by Supervisor Form, modified Flanders Interaction Analysis Category System, Language of the Classroom system, Hall's Instrument for Analysis of Science Teaching, informal observation instruments, and institutionally developed instruments.

Program effectiveness. Perceptual data on the teacher education program's effectiveness are collected from program graduates, student teachers, currently enrolled students, supervising teachers, and principals. Questionnaires, rating scales, and personal interviews are the primary means of collecting these data; examples include the Professional Plan and Affiliation Questionnaire and the Exit Interview Questionnaire. In most instances, non-standardized instruments are developed to reflect the characteristics and objectives of each program.

Program characteristics. A few programs (e.g., University of Houston and Weber State) collect data based on an analysis of curriculum materials used in the program. Teams of faculty members analyze instructional modules used in the programs to see if they conform to certain prespecified characteristics that are deemed desirable.

Contextual variables. In order to interpret teacher effectiveness data better, some programs (e.g., The Ohio State University and Oregon College of Education) have collected contextual data on the communities, schools, and classrooms where student teachers and program graduates are teaching.

Pupil outcomes. While several programs include in their evaluation designs the collection of pupil outcome data, few data have actually been collected.

Data Analyses

Each institution has a different set of problems and questions that its evaluators attempt to solve and answer. Western Kentucky University, for example, collects data on over 200 variables, many of which have repeated measures available for study. The evaluators at that institution conduct their analyses to answer specific questions relevant to the program, rather than using a "shotgun" approach to data analyses. Examples of such questions include: (1) What are factors related to perceived problems of first year teachers? (2) Can any probable factors be identified related to teachers' entry into teaching and retention after three years of teaching? and (3) Does teacher behavior change with experience?

The Teaching-Learning Interaction Program at The University of Texas Research and Development Center, for instance, has created a statistical system for multivariate analysis of change which can trace the effects of teacher characteristics, context variables, and training variables on teaching behavior--and on affective and cognitive pupil outcomes, if desired.

Those programs that have been conducting evaluation efforts for several years are accumulating a data base with a significant number of subjects. For meaningful analyses to occur, it appears absolutely essential that data be collected on a regular, ongoing basis. One-shot evaluation efforts every five or seven years will not yield very useful data, neither for program decision making nor for research findings.

Problems and Issues Raised at Colloquium

In addition to sharing information about one another's evaluation efforts, another purpose of the Austin colloquium was to discuss common problems and to share ideas about how to improve evaluation procedures. Some of the major items discussed included the following:

1. What paradigms exist relevant to teacher education program evaluation? Which seem most promising? Do any need to be developed? What are the parameters regarding what teacher education program evaluation entails? What are the variables? What measures can be used?

2. In what ways are evaluation efforts for preservice education similar to and different from evaluation issues for inservice education?

3. Are teacher education program evaluation efforts really research, or just data collecting for decision making at individual institutions? What can be done to enhance the quality of the data collected?

4. Are any institutions interested in collaborating in evaluation design and use of instruments in order to produce some standardization and synergistic effect?

5. How can data management be facilitated to ensure accuracy and fast turn-around?

6. What are the major research questions with which teacher education program evaluation efforts should be concerned?

7. Is there power in comparing teacher education programs on similar variables as one means of evaluating programs?

8. Is it realistic to expect to evaluate teacher education program effectiveness by trying to relate various variables with pupil (elementary and secondary) outcomes?

9. In light of pinched budgets, is it realistic to expect teacher education programs to conduct costly studies, such as process-product ones, as part of their evaluation efforts?

10. Are program faculty members really interested in evaluation data? What use do they make of them? How can the faculty's use of the data be enhanced?

11. What can be done to help institutions improve their teacher education program evaluation efforts?

As a result of the Austin colloquium, representatives of the eight institutions decided to continue the dialogue. An informal network for evaluation of teacher education was begun by the representatives of the eight institutions who attended the Austin colloquium. Working groups were established and plans for future meetings were explored. One of these working groups has developed a plan to develop a model for evaluating teacher education programs. Because this plan addresses some of the major problems and issues that were identified at the Austin colloquium, a description of the project seems in order.

A Model for Evaluating Teacher Education Programs (METE)

As has already been mentioned, participants at the Austin colloquium identified as a major need the definition and establishment of parameters regarding what teacher education program evaluation entails. That is, what questions can legitimately be asked regarding program evaluation, what variables are involved, what methodologies can be used to gather data, and what specific instrumentation is available to measure the different variables?

The objectives of the METE plan are to:

1. develop a comprehensive Model for Evaluating Teacher Education that institutions can use, in whole or in part, to guide the design of evaluation plans for preservice and inservice teacher education programs;
2. develop an implementation manual to accompany the Model for Evaluating Teacher Education that will provide users with essential information necessary to adapt the model to their specific purposes and needs;

3. develop a catalog of research/evaluation instruments, with accompanying information regarding availability, validity/reliability estimates, and cost estimates, to assist users in identifying and procuring instruments for use in evaluation their teacher education programs;

4. disseminate information regarding the Model for Evaluating Teacher Education implementation manual and catalog of research/evaluation instruments to teacher education institutions throughout the United States; and

5. facilitate the development of a Network for Evaluation of Teacher Education (NETE) which would promote collaborative planning and execution of research, data sharing, and linking of evaluation efforts.

The model-building aspect of the project aims at:

1. a comprehensive framework that identifies a variety of kinds and sizes of teacher education programs, from beginning to end of the teaching life cycle;

2. a comprehensive list of variables which current knowledge indicates are relevant context variables, instructor or teacher ("student") inputs, attributes of a training process, or desired outcomes of each program;

3. a comprehensive (though still a starter) list of instruments currently available, or logically adaptable, to assess each variable; and

4. a description of diverse analytic models (sampling designs, measurement strategies, statistical proce-

dures) which are maximally powerful and appropriate to the size and nature of the evaluation question to be answered in a given study.

Dissemination

Very little of what is known about evaluation models and assessment procedures has been applied to teacher education programs. The methodologies for researching teacher education programs are not well developed. Indeed, there seems to be only a small number of persons who have knowledge and active interest in this area of research. These facts, coupled with the press to conduct research on teacher education programs, have placed institutions concerned with the education of teachers in a real dilemma. The consequence of this bind may well be frustration and poorly done research. It is anticipated that the products of this project can ameliorate both these conditions. Thus, effective dissemination of the products is critical.

Since NETE institutions will be involved in the development of the products, there is an expectation that they will actively participate in the use and implementation. Other institutions will also be invited to participate in the development and use of the products.

A concerted effort will be made to disseminate the products to the largest possible number of users. This will be done through presentation at professional meetings (AACTE, AERA, and ATE), through professional publications, and through the continuing agency of the ERIC Clearinghouse for Teacher Education.

Kentucky Council on Higher Education Project

Another attempt to create a network of institutions concerned with the evaluation of teacher education programs is that being developed by the Kentucky Council on Higher

Education. Eight teacher education institutions in Kentucky, working with the Kentucky Board of Education and the Council on Higher Education, propose to develop an operational plan for evaluating undergraduate teacher preparation, stopping at the end of the senior year. Since at least part of their plan appears to overlap the proposed activities of the METE group, close coordination and collaboration between the two groups will most likely occur.

Summary

Most teacher education faculty have had little experience conceptualizing how one evaluates a teacher education program, what variables are involved, what data to gather, what instruments to use to collect the data, and how evaluation efforts may best be used to guide program improvement. Furthermore, financial support for actual research work has been extremely scarce. If teacher education programs are to do a better job of evaluating their efforts, work needs to be done in both conceptualizing and implementing evaluation plans.

What steps are necessary to improve teacher education program evaluation and produce good research on the processes of teacher education? While many steps are required, the following ones appear to be critical.

1. Both conceptual and operational models for evaluating teacher education programs are needed. These models must identify what questions can legitimately be asked regarding program evaluation, what variables are involved, what methodologies can be used to gather data, and what specific instrumentation is available to measure the different variables.

2. Research questions must be identified that evaluation

data from operating teacher education programs can help to answer. All teacher education programs are not equally worth studying, nor are they equally capable of conducting the needed type of evaluation efforts. Selected institutions, along with identified specialists in evaluation and research on teacher education, need to be identified and funded to conduct research studies.

3. Evaluation and research efforts are likely to have much greater payoff if some coordination and collaboration occurs among the institutions conducting studies. A network of institutions needs to be encouraged.

4. Inservice teacher education must be included in these evaluation and research efforts. A much broader understanding of teacher education processes can occur if inservice teacher education is consciously included.

5. As is always the case, funds need to be made available to carry out the research and development efforts described in this paper.

Selected Bibliography

Adams, R. D. Western Kentucky University's teacher preparation evaluation program: A brief history from September 1971 through November 1977. Bowling Green: Western Kentucky University, unpublished technical report, January 1978.

Arends, R. I., & Bullock, T. Evaluation plan for secondary teacher education. Eugene: University of Oregon, 1976.

Arends, R. I., & Hesse, K. Summary evaluation report. Eugene: University of Oregon, 1978.

Borich, G. D. *Three school-based models for conducting followup studies of teacher education and training*. Portions of this paper were prepared for the Organization for Economic Cooperation and Development (OECD), Center for Educational Research and Innovation, Paris, 1978.

Borich, G. D., Godbout, R. C., Peck, R. F., Kash, M. M., & Poynor, L. H. *An evaluation of the personalized model for teacher education: Final report*. Austin: Research and Development Center for Teacher Education, The University of Texas, 1974.

Hall, G. E., & Hord, S. H. (Eds.). *Teacher education program evaluation and followup studies: A collection of current efforts*. Austin: Research and Development Center for Teacher Education, The University of Texas, 1979.

Peck, R. F. *Teaching-learning interaction study: Interim progress report*. Austin: Research and Development Center for Teacher Education, The University of Texas, 1977.

Peck, R. F., Menaker, S., Veldman, D., & Fuller, F. *Effects of personalized education on elementary teachers*. (Evaluation of the 1962-67 program, "Teacher Personality, Teacher Education and Teacher Behavior.") Austin: Research and Development Center for Teacher Education, The University of Texas, 1972.

Peck, R. F., & Tucker, J. A. Research on teacher education. In R. Travers (Ed.), *Second handbook of research on teaching*. Chicago: Rand McNally, 1973.

Sandefur, J. T. *An illustrated model for the evaluation of teacher education graduates*. Washington, D.C.: American Association of Colleges for Teacher Education, 1970.

Schalock, H. D. *Closing the knowledge gap: CBTE programs as a focus of and context for research in education*. Syracuse: Multi-State Consortium on Performance-Based Teacher Education, Syracuse University, 1975.

Schalock, H. D., Giron, G. R., & Garrison, J. H. *Summary of the 1975-1976 followup data on first year teachers who are graduates of the OCE elementary teacher preparation program*. Monmouth: Oregon College of Education, 1976.

Schalock, H. D., Myers, K. H., Yee, Y. A., Steger, E. M., & others. *Summary of the 1976-1977 followup data on first year teachers who are graduates of the OCE secondary teacher preparation program*. Monmouth: Oregon College of Education, 1977.

REMARKS AS DISCUSSANT -
RESEARCH METHODOLOGY SESSION

N. L. Gage
Stanford University

Dr. Koehler has used to good advantage her central position in the field of research on teaching. She works at the intersection of a wide variety of proposals, projects, and programs--unlike those of us who wear the blinders of our own research and development predilections and commitments. Accordingly, her distinctions and illustrations in characterizing the improvement and descriptive approaches are more richly elaborated than any we have had previously.

For the sake of historical perspective, let me note that, during the period 1963-72 when the Office of Education had jurisdiction over laboratories, centers, and educational research and development generally, improvement research almost exclusively was acceptable, and an orientation to practitioners was predominant. Since 1972, the descriptive orientation has become more acceptable, because the National Institute of Education is at least a bit more removed from the practitioner's pressure for quick usefulness. Thus, descriptive research on teaching has a somewhat shorter history, even though it was done before the 1970s by such workers as B.O. Smith, Arno Bellack, Philip Jackson, and Louis Smith.

I find particularly useful Dr. Koehler's formulation, after Hamilton, of subjective generalizability. Murray Sidman in his Tactics of Scientific Research in 1960, expressed similar ways of supplementing our quantitative estimates of statistical significance and effect size.

Conceptual work is emerging out of the task of making sense of the findings of improvement research. As examples, I would mention the work of Brophy and Evertson on class management (1974), which seems to me to be understandable in the light of the work by Berliner and his associates on academic learning time (1976).

As for the problems of randomness, which Dr. Koehler mentioned, I suggest that much of it can be handled by restricting conclusions to the volunteer population, except in those cases where teacher education programs need not depend upon the teachers' volunteering.

It might make sense to add further dimensions on which descriptive and improvement research can be distinguished. (a) First, they can be distinguished on the basis of high and low risk. Can the research go wrong in the sense of yielding nonsignificant results, or mere failures to disprove the null hypothesis? Improvers do high-risk research; describers are low-risk researchers from the National Institute of Education's standpoint, as well as that of the researchers. Yet, of course, in the long run, descriptive research must pay off. New insights must come forth. It is harder to tell, however, when descriptive research does not pay off in this way.
(b) Second, they can be distinguished on the basis of cumulatability. Improvement researchers seem to learn more from one another than the describers do. It is easier to spot replications and confirmations or failures to confirm in improvement than in descriptive research.

Finally, I think it is worthwhile to raise the question: Can all descriptive research be made more useful by the easy and relatively inexpensive addition of student achievement and attitude measures? Because the cost ratio in most research on teaching is, say, 95% for observation and 5% for testing, the potential increase in the payoff of descriptive research through adding product measures is great. This kind of supplementation of their data-gathering might require a little reorientation of the descriptive researchers, but I'm sure that the National Institute of Education could effectively bring about that orientation if it wished to do so.

Dr. Doyle, as many of you know, has brought to research on teaching a wholly new level and breadth of scholarship. He has introduced ideas from learning psychology, ecological psychology, information-processing theory, and cognitive psychology. His recent long chapter on paradigms for research on teacher effectiveness in the Review of Research in Education (1978) has already begun to influence thinking and research, so that more enlightened attention is being given to the cues provided by teachers and to the behavior exhibited by pupils in the classroom. Thus, it was with special interest that I looked toward Doyle's own empirical research. What new methods, conceptions, and findings will he give us in his attempts to generate and interpret his own data?

I must confess to disappointment. This reaction is based on the assumption that the value of qualitative research should be judged not only by its subjective generalizability but also by the freshness or novelty of what it yields. And, in my opinion, his present report contains little that is new. Much of it has already been reported by such describers as Philip Jackson (1968) and by such analytic philosophers as Gilbert Ryle (1949) and Jane Roland (1961). Many of the findings seemed obvious when Jackson reported them in his Life in Classrooms in 1968, and they are no more startling when Doyle presents them in 1978.

That is my reaction to such statements as "classrooms are crowded with people, activities, and interactions; many events take place at the same time; and there is little time available for a teacher to reflect before acting . . ." (p. 5). Remember that, in 1968, Jackson said

> . . . the classroom is a busy place . . .
> the teacher engages in as many as 1000
> interpersonal exchanges each day . . .
> Most classrooms are like the proverbial
> beehive of activity. (p. 11)

I could quote many additional similarities between what Jackson reported in 1968 and what Doyle is reporting in 1979. For anyone who has read Jackson, the substance and flavor of Doyle's findings are reminiscent rather than refreshing. The same is true of the distinction schema and script knowledge for anyone familiar with Ryle's distinction between "knowledge that" and "knowledge how" (1949).

The main point, however, is the implication of these findings for the method that produced them. If a method should be judged by its yield, Doyle's particular brand of nonquantitative method seems unpromising. At the least, we need a better account of how the findings were obtained, that is, how they can be linked to the method rather than to private thinking and reading.

Dr. Cooper outlined a broad and extremely ambitious approach to the improvement of research on teacher education through an inter-institutional collaborative network. I can only applaud the aspiration and daring. I could also pour cold water on the notion by pointing to potential difficulties and pitfalls, but I do not think that is what is needed at the beginning of anything as audacious and necessary as what Cooper has proposed. Rather, I say "more power to them" and wish them well. I hope they can get the money that will glue their team together, power their effort, and smooth their way. May they also marshall the methodological expertise that will give their work the sophistication and finesse their problems deserve. I hope that we have here an instance in which ambition will not o'erleap itself and fall on t'other side.

Dr. Schalock makes altogether good sense, but I think he speaks much too negatively of what has been yielded by previous research on teacher education. More careful reviewing, including the use of meta-analysis, will, I think, show that much useful knowledge has resulted from research on teacher education. What the field needs even more than methodology, concepts, and questions is money and commitment. For example, we have a fairly good start on the problems of selection. The attitudes, interests, values, and kinds of temperament that make a teacher more highly regarded by principals and pupils were well indicated by the work of Ryan in 1960, by Cook, Leeds, and Callis in 1951, and by other projects since then. The same is true of many other problems in teacher training, including knowledge about what kind of training still shows effects for as much as three years after the training is over.

References

Berliner, D. C., Cahen, L. S., Filby, N., Fisher, C., Marliave, R., & Moore, J. *Proposal for Phase III-B of the beginning teacher evaluation study, July 1, 1976-June 30, 1978*. San Francisco: Far West Laboratory for Educational Research and Development, 1976.

Brophy, J., & Evertson, C. *Process-product correlations in the Texas teacher effectiveness study: Final report*. Research Report No. 74-4. Austin: Research and Development Center for Teacher Education, The University of Texas, 1974.

Cook, W. W., Leeds, C. H., & Callis, R. *The Minnesota teacher attitude inventory*. New York: Psychological Corp., 1951.

Doyle, W. Paradigms for research on teacher effectiveness. In L. S. Shulman (Ed.), *Review of research in education*. Itasca, Ill.: F. E. Peacock Publishers, 1978.

Jackson, P. W. *Life in classrooms*. New York: Holt, Rinehart & Winston, 1968.

Roland, J. On the reduction of "knowing that" to "knowing how." In B. O. Smith & R. H. Ennis (Eds.), *Language and concepts in education*. Chicago: Rand McNally, 1961.

Ryans, D.G. Characteristics of teachers. Washington, D.C.: American Council on Education, 1960.

Ryle, G. The concept of mind. New York: Barnes, and Noble, 1949.

Sidman, M. Tactics of scientific research: Evaluating experimental data in psychology. New York: Basic Books, 1960.

DISCUSSION: RESEARCH METHODOLOGY

Freda Holley
Austin Independent School District

Being the last discussant of one of the last sessions of the conference, I take the previlege of considering the problems of research methodology in the broader context.

The central dilemmas of research in education can, I think, be sorted rather neatly into about three categories:

. How to Ask Good Questions about Education

. How to Get Good Answers to Those Questions

. How to Use the Answers We Get

One of the features of our higher education process as I have observed and experienced it is that it is much better at teaching us how to ask questions than it is at how to seek answers. One of my rather strong memories of graduate school is of being told by one instructor that the only important thing was learning to question.

Thus, I think we are following tradition in this conference, since I believe that much of the past two and a half days has been devoted to the problem of asking good questions about teacher education. We have given only this half of one afternoon to the consideration of research methodology or "how to get good answers." This fate also befalls the topic of utilization which is perhaps the most difficult of all our research dilemmas.

If time has the importance in the overall educational schema that we have been hearing, perhaps this is an orientation we might want to think about in our education of educators.

Another thing that impresses me, not only in the papers of this session, but also in the conference throughout, is the impossibility of separating the problems of teacher education research from those of other research areas. Although there is some uniqueness, there are far more commonalities than differences. Nowhere is this more true than in the area of research methodology.

Having categorized the problems of educational research, I'd like now to summarize those that fall within the area of research methodology or "how to get answers," either as I've heard them voiced in the papers of this session or as I believe them to exist. Fortunately, I think we can also speak of promising solutions to some of these problems, again either from the papers or other recent developments.

Resource Scarcity

Since teacher education research, as well as all other forms of research, operates from a very thin resource base, this becomes a prime problem for all areas. We need to make sure that we make our resources go just as far as we possibly can. Two avenues are available, communication and collaboration. Since problems are shared across fields, we need to assure good communication. James Cooper discusses efforts to establish the Network for Evaluation of Teacher Education. Such networks are sure to be helpful. Conferences with varied representation (such as this one) are also of help. ERIC has been of great benefit. In the area of collaboration, we need to discover resources already available. To give an example I am familiar with, Webster and Stufflebeam (1977) reported that 35 large school districts spent about $34 million on research and evaluation during the 1977-78 school year. As a member of one of those districts, I can tell you that this represents one huge data base on teachers, students, and classrooms. Yet, I know of no teacher education evaluation that taps this resource. Isn't there someway to do this so that we can avoid collecting additional data (always a nuisance to us in the schools)? Another thing we should do in collaborating is to identify which group can most efficiently collect which kinds of data or do which kinds of research. For example, Research and Evaluation offices in public schools can collect ethnographic or descriptive data about naturally occurring phenomena in schools with ease and do a great deal of it. What we are almost totally incapable of doing, given our context, are rigorous experimental studies which result in varied resources to schools, teachers, or students. Identifying the best agents to rely on for which research methodology might lead to greater efficiency.

Extending and Maintaining Methodological Skills

To conduct good research, we need good skills. I once heard a debate about whether doctoral students in a given teacher education area should be required to complete a statistics course for a degree--one course, mind you! Although the scheduling problems that lead to such a debate can be appreciated, we have to be appalled nonetheless to recognize that these students are our teacher education researchers of the future. On another front, our mechanisms for keeping practitioners up on new research methodology are not very good: a few American Educational Research Association presessions and one or two summer programs. Yet, our data analysis skills are the most difficult to come by and are the most likely to become rusty of all those we need.

Data Aggregation

Replication is something we must depend on in behavioral research of all kinds, but we have not had good methods for assimilating results from multiple studies. Thus, Gene Glass's (1976) work on meta-analysis is one of the most hopeful things I've seen on the horizon for a long time.

Complex Data Analysis Techniques

All three papers presented comment on the fact that research methodology to deal with complex events are required, and Schalock has covered quite well the increasing use we are seeing of more complex techniques in current research studies. The work done in secondary analysis seems to me really to advance our understanding of these techniques in practice as well as theory. In general, I feel much more comfortable about the advances we are making in improving our techniques than I do about the extent to which they are getting used by the vast majority of researchers; I speak here, however, from the requirement of my position to review requests to do research in our school system, not from major national studies.

Measurement

The problems here range all the way from differences in approach such as qualitative versus quantitative or descriptive versus improvement, to defining what it is we should be measuring. Walter Doyle's paper deals with the latter types of problem to some extent, and Virginia Koehler's paper addresses the former type directly.

The current debates over latent trait theory, the Rasch model, and such recent developments in measurement theory can all be taken as tokens of our progress. I look to them hopefully for solutions to the kinds of problems we face in research.

You can see what I mean about these problems not being unique to teacher education research. However, these certainly represent groups of problems in research methodology that teacher education researchers will have to face along with all the rest of us in the field of research and evaluation. We have a long way to go in solving most of these problems, but we clearly have glimmers of progress.

References

Glass, G. V. Primary, secondary, and meta-analysis of research. *Educational Researcher*, 1976, *5*(10), 3-8.

Webster, W. J., & Stufflebeam, D. J. The state of theory and practice in educational evaluation in large urban school districts. Paper presented at the annual meeting of the American Educational Research Association, Toronto, Canada, March 1978.

Concluding Comments

On the basis of conference presentations and collaborative activities, a number of researchable issues were ultimately generated, synthesized and prioritized. The resultant recommendations, which are summarized below, represent a collective sense of the appropriate directions for research and development in teacher education for the next three to five years.*

One basic perspective which encompasses the recommendations is: *The setting of research priorities and the operationalization of those priorities into research activities should be planned and implemented from a multi-dimensional perspective*. More specifically, the following parameters were identified:

(1) Teacher education research should be carried out across the *continuum*--from preservice, to early inservice (*induction*), and throughout the inservice career.

(2) The *existing knowledge base* should be formally analyzed, synthesized, and documented as a starting point for any future work.

(3) A heavier emphasis should be placed on *descriptive research* (to understand a phenomenon) as a complement to *improvement research* (designed with intended impact on practice) in order to provide a sufficient base for conceptual and theoretical work.

---

*The document "A National Agenda for Research and Development on Teacher Education, 1979-1984" describes the development of the national agenda and presents the recommendations in detail. This document is available from: Communication Services, R&D Center for Teacher Education, The University of Texas, Austin, TX 78712 (Publication #7002).

(4) Studies will need to vary in length and design in recognition of the multivariate nature of phenomena being studied. Studies should utilize knowledge (substance and procedures) from other disciplines and employ diverse methodologies, both quantitative and qualitative.

(5) Research should stress interaction using a collaborative teaming approach, and practitioner teacher educators (school-based, higher education, and other) should be involved in all phases.

(6) Before research is undertaken, costs and benefits for the process and for the implementation of findings should be weighed; i.e., some type of cost-benefit analysis should be done in relation to potential for useful, practical pay-off.

The recommendations described above serve as the backdrop against which the following priority research issues were delineated by the collective constituent representatives:

1. Research on teacher educators as practitioners should be undertaken. Specific study foci might be: clearer identification of the target (characteristics, training received versus that needed, skills developed versus those needed); clearer conceptualization of the role (how and what training is carried out by the teacher educator and what roles accrue to them); study of effects (on students, on sex or racial biases, and in different contexts).

2. Research about the teaching/learning process should be extended and the already existent knowledge base about it should be considered in terms of its implications for teacher education practice. More specific foci might include: effects on the process by different teacher education programs or component variables, relationship to teacher characteristics, test of current concepts with new target populations, and use of a wider set of criterion variables about what entails "good" practice.

3. A more accurate descriptive normative data base about what constitutes the content of teacher education should be developed, along with analy-

tic appraisals of what it might or should be; i.e., criteria determined for selection and organization of content.

4. The current process of teacher education should be explicated and integrated, alternative models developed, and factors moderating effectiveness identified.

5. Theoretical and conceptual work must be done to promote an understanding of the influence of various contexts of teacher education (social, cultural, political, economic) through descriptive research. Important variables in both the training and work setting should be identified, and teacher preparation process developed that takes into account contextual factors in the work place.

6. Attention to basic descriptive and theoretical work examining professionals as adult learners is needed. This would include syntheses of existing work as well as extensions and further exploratory effects. That knowledge should provide one base for the design and delivery of training for teachers and teacher educators.

7. Description and theory generation about collaborative models which are presently in practice should be undertaken. Conditions which facilitate or hinder collaborative efforts, and factors which maximize its usefulness, should be identified.

8. The change process within educational institutions should be studied, and formal mechanisms for the dissemination of information and for the application of research knowledge to teacher education practice should be developed.